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12/11/17

SUBJECT: Internship Review for Alan Williams

To Whom It May Concern:

My name is Brandon Moore and I'm a lead developer and project manager with Adilas, LLC. This letter is to review the efforts and tasks that Alan Williams has done with our company as part of his internship for the Computer Science Department at Utah State University.

First off, everybody here at Adilas, LLC. loves Alan and we count on him to save our bacon on almost a daily basis. Technically, I'm a lead developer but have been mostly self-taught through the school of hard knocks. I did graduate from USU in the Business Department, specializing in Information System. Because Alan has been taught and schooled in multiple languages and modern techniques, he tends to be our go to guy.

This wasn't part of his internship, but I personally have leaned on Alan for help with developing and standardizing project documentation, overarching development strategy, code review processes, along with testing and deployment of live code. He has been a great asset. We as a company have gained from his schooling and course work. Thank you.

Originally, we had planned to do a very large database rewrite going from a completely shared database model to a more individual level for single companies or small groups of companies. This project was started but then put on the back burner due to pressure and needs on other projects and fronts.

During his internship, Alan, has primarily worked on three large scale projects. They were introducing sub inventory views and searches into the ecommerce site, a huge sales tax expansion project, and a custom project using internal settings and tools to provide a custom solution for a campaign and fund-raising company. Below, I will review some key pieces of each project that he has been involved with as a lead developer, project manager, and general technician.

On the sub inventory into ecommerce project, Alan worked with one of our outside 3rd party project managers to complete the project. The outside 3rd party project manager pitched the project and setup the specs. Alan was the lead developer on that project. The project dealt with numerous new database tables, new one-to-many relationships, and then being able to show all of the data bases on categories, sub inventory packages, and sub attributes per package.

To give you an idea of how deep the database structure was on this project… it goes something like this: corporations, locations, vendors, items, item categories, sub attributes, parent attributes,

sub inventory packages, PO's, PO line items, quotes, quote line items, shopping carts, ecommerce, invoices, invoice line items, invoice payments, and item photos and scans. Quite a labyrinth of tables, fields, joins, links, and relationships. The project completed on time and on budget. This project is currently in production and being used by multiple clients across multiple servers. Alan was the primary or lead developer for this project.

The sales tax expansion project is another huge project that Alan has been working on. This project was started by myself and one of the head partners in the Adilas, LLC. company. We did some initial planning and the project kept expanding and growing in size. I was into this project well over 100+ hours before we pulled in both Alan and another developer to help finish things off. This project is quite deep and deals with lots of dynamics on the store/location level for sales tax settings. Over 50 new fields were added to capture sales tax details such as dynamic naming or titles, pushing percentages out to multi-decimal points, including sub filters such as inventory types, part/item categories, and even limiting taxes based off of customer types.

Sales tax settings and features run through the online POS (point of sale) system like the nervous system runs through the body. It touches almost every aspect. The system already had state, county, and city tax settings. We also had custom 1-5 sales tax settings (5 custom sales tax settings). The new sales tax expansion project took each existing setting and added numerous sub settings per existing sales tax category. We also added custom 6-10 sales tax settings. Making a total of 13 individual sales tax buckets or places that could be used per corporation to gather and hold sales tax information. This project, because it was so large and in-depth, we ended up adding a new or 14th sales tax bucket for rounding errors to help catch details and to help with math calculations. All percentages were pushed from 2 decimals of accuracy to 5 decimals of accuracy.

Sales tax is calculated on a per item and per line item basis. This allows for the most granular level of details. Each item may be subject to different taxing scenarios. This could be excise taxes, taxes based on item categories, inventory types, and even customer types. This gets even more complicated when you start dealing with discounts, items with tax included, and special totals that need to be backed into (out the door pricing). Here is an example: Say you have 7 grams of a product selling for $50. Pretend that this price is with tax included and has a discount of 12% for VIP members. We have to back calculate all of the values and then be able to attribute the correct sales tax into the 13 sales tax buckets plus the 1 rounding error bucket per line. By the time we are done, it needs to come back to that $50 – out the door pricing. That is a lot of splitting of hairs, if you know what I mean. Say the shopping cart had 10 lines, each with similar type logic. It gets super deep. Alan has been in the heart of all of those calculations and testing. He has been the technician and mathematician on this project. We have been very impressed. We are hoping to launch this project by the end of the month.

The other big project that Alan has been working on was a custom wire job for a section we call elements of time (calendar and scheduling). The custom wire job was for a company that is doing campaign funding. The custom interfaces and site has a very visual and modern feel to it. The entire site is exposed externally while maintaining the normal secure internal workings. They use our elements of time section to show and display the different campaigns. The system is then wired to create multiple templates within the same section. Lots of interjoining of objects

and items. Sometimes we call that smoke and mirrors. Basically, behind the scenes, we do certain things, but we show it or make it available as if it is something else.

This project dealt a lot with custom wiring through internal API sockets to get the desired outcome. Some of the custom templates for this project are things such as campaigns, internal messaging, paid and un-paid events, social following, and sub comments (mini virtual forum of sorts). Alan has been the lead on this project. He crafted most of the pages to specs. He worked with yet another project manager and helped to coordinate work done by another developer on the team. Lots of communication and leadership on this project as well as technical skills. This project has been released and is currently being tested by the client (beta mode). We have a small list of to do changes that have been requested, but it looks awesome. Most of the requests are cosmetic, small, and/or part of a future round.

Alan has been a great asset to our company. We love what he does and what he brings to the table. He makes us look good. He would receive an A+ (110%) in all accounts based on my interactions with him. We plan on continuing to use Alan as an asset, if he will have us. With his new degree coming, we are hoping that he will still want to play with us in our system development process and lead programmer type roles. Highly recommended.

If you have any other questions, please feel free to reach out and I will comply. Thanks for your time and Merry Christmas and Happy Holidays.

Sincerely,

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