# Executive Summary

The IT Talent Council met on Monday August 18th to kickoff the discussions and identify the major challenges for the employers in region 9 as they relate to hiring and retaining IT talent. We focused on six major areas, and drilled into each to detail the specific issues in those areas.

These issues will frame the ongoing discussions that will formulate a plan to address those issues.

# Challenges – Positions to Fill

We began the session by discussing which jobs are the hardest to fill. The consensus was that the hardest job to fill was software developers. The majority of the room felt that was a challenge. There were specific sub-skills of software developers that were mentioned: web developers, and front end developers. Database developers (Oracle and others) were also mentioned. Another specific issue is finding QA people versed in test automation techniques.

Other positions that were difficult were network engineers, graphic designers and UX designers.

The employers expressed that it is very hard to find developers that are ready to be productive in modern environments on the first day of work. The following sections drill into some of the reasons for this challenge.

# Challenges – Technology Skill Gaps

The most common frustration was based on programming languages. The majority of our graduates have been using C++ as their only programming language throughout college. This is especially true for University of Michigan CS students. Many of the companies use more modern application-level languages: JavaScript, C#, Java, Ruby, and PHP were predominant.

More important than the fact that these recent graduates did not know the pertinent language was the fact that these recent graduates had only learned one programming language during their college experience. Employers felt that if students learned more than one language, preferably different families of languages, they were be more ready to take on new challenges.

The employers would like to see recent graduates with more breadth on the different elements in the web development stack. New graduates should have been exposed to everything from the OS and network stack to the client side tools of HTML5 and JavaScript. Some can believe that “It works on my machine” is enough for shipping software.

Overall, the messages was to focus less on specific skills, and more on the ability to adapt to new technologies, and problem solving skills.

Finally, there was one comment that training can be too expensive.

One very helpful comment was that looking for a candidate’s participation in Open Source projects answers many of these questions. Another was to invite interviewees to read and review code.

# Challenges – Soft Skills

We continued our discussion by discussing some of the issues relating to soft skills, and functioning in a team.

The challenge mentioned the most was finding employees that are ready and willing to work in a fast paced culture. Our younger companies are changing quickly, and they need a workforce that can adjust and pivot just as quickly.

Many of the employers expressed the desire that computer science graduates were more rounded. They wanted to see some presentation skills (not up to the level of professional speakers, but able to hold their own in meetings). They wanted graduates to have some fundamental business skills. Some also wanted to see graduates better able to function in teams.

Some employers expressed that recent graduates have a sense of entitlement due to the heated job market. (One might argue that this shows that recent computer science graduates do understand economics and business.)

We also have an issue where the networking events for developers rarely cross the networking events for hiring businesses. Ann Arbor has a large number of developer events, and a large number of entrepreneurial and business focus events. However, other than the Ann Arbor New Tech Meetup (<http://www.meetup.com/a2newtech/>), none of these events offer any cross-pollination. It was also mentioned that our area lacks a critical mass of recruiters that know what languages and skills are actually in demand. The working hypothesis is that our region has too much focus on the auto industry to the detriment of newer more dynamic verticals.

One helpful comment was for businesses to seek out those with an entrepreneurial bent. Those people have the very skills and drive that employers are seeking.

# Challenges – Industry and Business Knowledge

Our next item for discussion involved industry and business knowledge. Too many candidates do not have any knowledge of specific challenges for a given industry. This is especially an issue in the health care industry, where HIPPAA regulations are an overriding concern. Other regulated industries have similar concerns.

One helpful suggestion is to pair the older generation with deep industry experience with the younger, tech savvy employees.

# Challenges – Company Culture

The next two areas were related. Some of the employers are concerned that if a company appears to be behind the technology curve, it hurts their ability to recruit. Technology talent looks for opportunities that will advance their career. That means working with the latest processes, tools, platforms, and languages. Companies that aren’t using Agile methods, git, and developing for new and growing platforms are at a disadvantage.

# Challenges – Location

The final challenge we discussed was our location. There were three specific concerns mentioned.

The first is our proximity to Detroit. One employer mentioned the “I-275 divide.” Once you go east of I-275, the economy is all autos, all the time. That means too many developers have extensive experience in the languages, and methodologies used by these mature companies. They don’t adapt well to the dynamic and fast paced younger companies west of I 275.

The second major concern is the “beached” problem. Many companies mentioned that recruiting one person from a two-income couple is a major challenge. The trailing spouse is concerned that there are no opportunities. A related problem is that many recruits are concerned that if this first opportunity doesn’t last, there won’t be enough opportunities for new positions. Even single recruits are afraid of being beached if the first startup doesn’t succeed.

The third concern is that many new graduates are enticed by the salary numbers in more high-priced markets. They leave after successful internships here, and move on to Silicon Valley, Research Triangle Park, Boston or Austin.

Interestingly, none of the employers attending had ever used MI Talent Connect.

The employers had many positive suggestions here. The main focus is that Michigan needs to tell its story better. We can sell the work-life balance here. We can and should be marketing the region to senior tech executives and technical leaders. We have a sense of community, and individuals can have a major impact. Overall, employers agree that the area has a lot to offer, and that once people experience life in Michigan, it’s a much easier sell.

# Next Actions

This first session focused entirely on gathering input on the issues affecting our regional employers with respect to recruiting and retaining talent. It might appear negative, but identifying issues is the first step to creating solutions.

The next series of meetings will convene smaller groups based on geography and vertical market. These smaller groups will brainstorm ideas and refine the best ideas into action plans.