

# Washington Interactive Media Association: Feasibility of a Worker Retraining Program to Increase Diversity

## REPORT

Janet Matta  
CareerJanet  
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### A. Introduction

The purpose of this feasibility study is to evaluate the feasibility of a worker retraining program to increase diversity in the gaming and interactive media industry in Washington state. For the purpose of this study, diversity was defined as non-white and non-male.

The occurrence of “#Gamergate” in 2014 focused attention on diversity in gaming as an important factor in diverse workforce participation in the industry, and has led to an interest industry-wide in efforts that will help support female and diverse hiring, retention, engagement, and leadership.

Demographics of people employed in the gaming industry as reported by the International Game Development Association, are currently predominantly white and male. According to the 2015 IGDA diversity study, 76% percent of respondents were white, and 75% of respondents were male. If we compare the numbers for the game industry to the larger tech industry, these companies average 67.6% male in the 9 largest tech companies that reported diversity data in 2015, and 76.4% white according to the same report. This means that diversity numbers in

gaming are close to on par with the rest of the tech industry for ethnic diversity but lag behind on gender diversity.

In an interview about outcomes with the IGDA president, “our goal is to see the number of women and underrepresented people double by the year 2025. The exact percentage isn't as much as key, as just ensuring that those who make games better reflect those who play them.”

This feasibility study was conducted to evaluate whether a worker retraining program designed to choose female and minority workers from complementary industries or disciplines to retrain into roles in the game industry would be a feasible way to increase diversity in the interactive media industry.

## B. Methods

Sixteen interviews were conducted with hiring managers in the interactive media industry and education providers. In addition, one roundtable discussion with five participants was hosted and sponsored by WIN, and audio recording of the discussion was provided for evaluation. Questions were provided to facilitate discussion in the roundtable and were the same as the questions used in interviews with industry. A strict interview/facilitation was not followed, participants were encouraged to share thoughts that seemed relevant to them even if they diverged from the question explicitly stated, in order to generate an understanding of what was most important and interesting to the participant. Discussion and interview questions are listed in the Appendix.

The methods varied from the initial proposal due to the difficulty of finding participants willing to give time to the study.

## C. Alternatives

3 possible alternatives have been identified.

1. **No Action.** Alternative one is the current state of affairs, where no action is recommended, and no additional effort is expended beyond what already exists in the field related to diversity recruitment and retention efforts.
2. **Retraining Program.** Alternative two is developing a worker retraining program along a model similar to existing apprenticeship programs in the industry. A model for this could be the Apprenti Program hosted through the WTIA organization, or Year Up, a nonprofit focused on developing at-risk youth in technology careers.
3. **Education and Training on Diversity Retention.** Alternative three arose as part of discussion with hiring managers and professionals in the industry, as an area of high need and a way to support diversity efforts. Alternative three involves the creation of training and education for companies, professionals, and managers in the industry

related to practices for culture change and support for diverse populations. The exact parameters of what this could include could be the subject of follow up interviews with professionals experienced in diversity training, education, and facilitation.

## D. Criteria and Evaluation

Three criteria were identified to evaluate the feasibility of each alternative. All criteria generated were based interviews and roundtable discussion with study participants. Criteria were scored using a qualitative rubric and assigning values for each alternative of high, medium, or low.

1. **Impact Likelihood.** This criteria answers the question: Will this alternative increase diversity in the gaming and interactive media industry? Three measures of high, medium, and low, were identified. High correlates to a better-than-average likelihood that the program will increase diversity as a percentage of employees in gaming and interactive media organizations, based on likely levels of engagement. There were no alternatives identified as part of this study that have been evaluated to have a high impact, because there was not enough information obtained to be sure that a given alternative would have concrete impact on diversity numbers within the organizations. Medium correlates to an average likelihood that an alternative will have an impact on increasing diversity numbers in an organization. Two of the alternatives presented are evaluated to have a medium impact, and this has been evaluated considering the assumed impact of other similar programs, in particular, the Apprenti program. Medium is intended to indicate that an impact may occur, but is not especially likely nor unlikely, and depends largely on the details of the program and efforts such as marketing, development, funding and size of the program. Low correlates to a lower than average likelihood to increase diversity over current numbers, and one alternative was determined to be unlikely to have an impact.
2. **Cost.** Cost evaluate the relative cost investment of each alternative. High corresponds to a likely implementation cost of more than \$1 million. Medium corresponds to a likely cost of between \$20,000 - \$1 million. Low corresponds to a likely cost of Zero to \$20,000.
3. **Acceptance.** Acceptance from industry evaluates the likelihood of industry participation and investment in the alternative. High indicates a high likelihood of participation and interest from organizations and businesses in adopting and supporting this alternative. Medium indicates a moderate level of interest from industry partners in the alternative, and maximizing adoption and support would depend on the level of effort expected, the quality of the program, the cost of participation, and likely impact. Low indicates a low level of interest and acceptance from industry, and no listed alternatives were found to have Low as a result.

Alternative Ranking Using Criteria

	Impact likelihood (Will it increase diversity?)	Cost of Implementation	Acceptance from Industry
1. No Action (Status Quo)	Low	Low	Low
2. Retraining Program	Medium	High	Medium
3. Education/Training on Diversity Retention	Medium	Medium	High

### E. Recommendations

1. **No Action.** This alternative is not recommended. This alternative is found to have low likelihood of impact on increasing diversity in the gaming industry, as existing efforts have made small incremental changes in diversity numbers in the past several years, and participants all felt that something else should be done to improve diversity within the gaming industry, even if they weren't explicitly sure of what that should be. All but one participant recommended some level of action or program implementation to assist with increasing diversity. On the measure of cost, this alternative was found to be low cost, as it represents no additional investment in program implementation. On the measure of Acceptance, this alternative was found to be Medium, as all but one participant recommended taking action in some way to improve diversity within the industry. However, many participants, particularly female engineers and product managers, said they would not recommend that women or diverse candidates pursue careers in the gaming and interactive media industry, and this may lead to a lack of engagement from these participants in adopting a program of any kind. This phenomenon could use further study and investigation to gauge the level of support for programs that are implemented.

2. **Retraining Program.** This alternative is not currently recommended as a standalone initiative. Based on the qualitative information, this alternative was found to measure Medium on the likelihood of impact, given that existing similar programs have had medium impact on diversity numbers within similar technology companies, and the variation of impact across similar programs is great. This alternative was found to be high on the measure of Cost, as similar programs are very high cost and high effort to implement and maintain. The annual operating budgets of similar retraining programs are well over \$1.5 million, and it is unlikely that a retraining program could be created and effective that is run at substantially less cost. Acceptance from industry was found to be medium, as the majority of participants, when asked, said that they would use a retraining program as a way to get access to diverse candidates, but that they would need the program to meet specific requirements and be part of a suite of other diversity related initiatives. Few participants indicated very enthusiastically that they would

support or utilize a worker retraining program. In addition, participants from the WTIA Apprenti program recommended against this option, as there was concern that it would compete within the employment community with their efforts, and collaboration through one existing program would be more desirable.

- 3. Education and Training on Diversity Retention.** This alternative is recommended. Throughout the interviews and roundtable discussion, participants talked freely of the need to focus not on increasing the number of diverse candidates in their talent pipeline, but of the need to focus additional effort on creating a culture of diversity and support for diverse staff within the industry and interactive media companies. This alternative is found to be Medium on the measure of Impact, as it will depend greatly on the quality of the training efforts and whether the insights are effectively taken up in culture of the organization. If the program is designed to take advantage of companies' existing desire to increase diversity and change culture, then it is likely to be successful. If, however, the training is not adopted through an existing desire to change culture, it is not likely to have high impact. To maximize impact, training programs should be directed at companies who desire to change their culture of diversity, but who lack the skills and expertise to make this shift themselves. On Cost, this measure was found to be medium, as it is expected to be less than \$1 million per year to implement, and can flex in cost based on the level of experiential interaction and follow up support needed to create effective change in the organization. On the measure of Acceptance, this measure was found to be High, as it was a suggestion repeated by several participants voluntarily without prompting of this as an option. It came across as an option that participants themselves recommended.

## F. Discussion

The majority of participants talked about diversity as a cultural problem within their organizations, and expressed concern about bringing in more diverse candidates without a culture that would be supportive to their professional and personal success. While hiring and retention can sometimes be seen as a "chicken or the egg" problem, participants interviewed largely felt that efforts at culture change that would increase retention should occur before diverse hiring programs received more investment. There are many creative ways to investigate culture change and retention and satisfaction of diverse workers in the interactive media industry, and it is recommended that these be the next area for exploration and investment.

If worker retraining is pursued as a course of action, it is recommended that it be in partnership with efforts on culture change and retention, and in partnership with existing diversity hiring initiatives, such as the WTIA Apprenti program. Many participants had awareness of this program already, and it could be leveraged or expanded to meet the needs of interactive media and gaming companies, which are currently outside of its scope. Significant financial investment would be required if a worker retraining program for gaming and interactive media is pursued, with educational institutions available (Digipen and Lake Washington Institute of Technology) to provide the educational component of the training. It is estimated that in order to be effective,

this would be a minimum 2 year program, and cost is expected to vary depending upon the prior skill level of the participants. Given the shortage of female and minority candidates already working in the technology industry, it is expected that participants would be coming from non-technology backgrounds, and would require substantial training and education to be hire-able, thus increasing the cost of the program. If this option were to be pursued, a next step would be the creation of a proposal with partnership organizations to clearly articulate cost and program components.

## G. Appendices

- a. List of interviewees
- b. Discussion/Interview Questions
- c. Interview Notes
- d. Resources

### Appendix A: List of Interviewees

<b>Name</b>	<b>Role</b>	<b>Organization</b>
Suzanne Ames, Ed.D.	Dean of Design, IT and Baccalaureate Development	Lake Washington Institute of Technology
Anonymous	Producer - Games	Anonymous
Brittany Aubert	Technical Producer	City State Entertainment
Audra Aulabaugh	Senior Director: Talent Acquisition	Big Fish Games
Jennifer Carlson	Program Director	Apprenti - WTIA
Crystin Cox	Lead Designer	ArenaNet
Joe Cudiamat	Technical Account Manager	Microsoft
Kate Edwards	President	IGDA
Soren Hannibal	Sr. Developer	Microsoft - Minecraft
Fanny Vadillo Herrera	Software Engineer II	Microsoft - Minecraft
Jin Ha Lee	Professor - Gamer Lab	University of Washington
Sasha Rayburn	Program Manager	Apprenti - WTIA
Jordan Shepherd	Program Manager	Apprenti - WTIA
Anita Sujarit	Senior Producer	Microsoft - Minecraft

Raymond Yan	Executive Director	Digipen
Holly Barbacovi		Wizards of the Coast
Jonathan Maltos		Big Fish Games
Katy Jo		Microsoft - Xbox
Jason Chein	CEO	J Bit Toys
Carey Dijulio		Big Fish Games

### Appendix B: Interview and Discussion Questions for Industry

1. What are your biggest challenges in sourcing candidates for your open positions? (not just diverse candidates necessarily, everyone).
2. What areas of diversity are important to your organization, what types of diversity are you looking to increase?
3. How do you currently source candidates?
4. How do you source diverse candidates? (and is there a difference in these strategies?)
5. If we were to source diverse candidates from other industries to work in game development, what industries might have an overlap in skills that you need? What alternative backgrounds could your candidates come from?
6. If we created a worker retraining program as a source of diverse candidates in game development, what should it include in order to be successful and helpful to you? Would you use it? Under what circumstances?
7. If not, why not?
8. (Similar to question above, skip if this ends up being addressed already): If we were to implement a worker retraining program as a hiring pipeline, what challenges should we be prepared to address?
9. Would you yourself put budget toward a worker retraining program if you knew it could increase your diverse candidates? How much return (a percent increase, a number of diverse candidates or successful hires, etc?) would you need to see in order for an investment in this type of program to be worthwhile?
10. What could we do instead, aside from a worker retraining program, to increase the diversity in your candidate pools?

## Appendix C: Interview Notes

### **Suzanne Ames**

11/22/16

Suzy Ames, Phil (academic), Kate (librarian)

#### Overview:

- Worker retraining is already happening through state of Washington.
  - Lk Wash Tech gets funding from the state, students come with funding, career plan
  - Serves displaced workers and L&I
- Diversity programs:
  - Russell Wilson and MSFT partnership - Microsoft Tech Initiative to increase diversity in MSFT.
  - The game program at Lk Wa Tech is already more diverse than Kirkland overall, have 50% women.
- They do have an NSF funded scholarship for students, but hard to get students aware of it.
  - They could choose automatically, but many funders want the fun of going through and learning about student stories and reading applications
- Lk Wa Tech does allow/provide internships, the students find these themselves and can then get credit at school for completing them, are supervised by the faculty etc.
- Community colleges already far more diverse than the universities because of the open access mission, and they get the students to college level math and English first.
- Also have a population of immigrant refugees, and many international students

#### CHALLENGES:

- Demographic of Kirkland is predominately white
- Transportation for students is an issue, must have a car, though they've been working on this with Metro
- Cost of living in this area
- Funding for the program
  - Would love corporate sponsorship
- Faculty salaries expensive and currently below market value for their work in the private sector
- High tech equipment is expensive
- Students don't know about scholarship opps and don't think the scholarships are for them.
- Perception from industry that we (the schools) can't be adaptive and responsive enough. But largely that's because of resourcing.
- Hard to convince the Worksource and L&I counselors that this is a viable career path that should be funded
  - They don't see it as a guaranteed job like Drafting for example is
  - This requires more highly skilled individuals and is a competitive industry

- Industry is small and more about who you know than what you know
  - But some people can seem to convince their counselors to pay for this
  - Some social dysfunction in the students makes them hard to employ
- Industry seasons in this industry don't often line up with the school academic calendar, hiring happens at the beginning of a project, but then it ships and

#### WISH LIST:

- Public/private partnership
- Faculty endowed position
- Branding of big tech companies to use in marketing and recruitment of students
- They have not really tried industry collaboration yet, could be room for this.

#### Examples of success:

EA Sports in Canada giving money to the schools with a promise to be flexible and adaptive.

- WTIA tech apprenticeship program
  - They have an application process, might be incompatible with the open mission of Lk Wa Tech
  - They vet the students, test them using industry certified tests
- Have an existing collaboration with Digipen that's going well, articulation agreement to share courses
- Example of the Skagit Valley Innovation Partnership Zone around agriculture
  - Includes Port of Skagit, Wa State U extension program and companies, restaurants, all got together to start an incubator program for different types of grains, now SVC has a brewery program
- Innovation Partnership Zone in general:
  - Designation from the DOC
  - No money but is a tool for collaboration
  - Ours is Digital Gaming and Interactive Media
  - The Lake Washington Innovation Partnership Zone hasn't gotten off the ground, perhaps infighting there.

#### Questions Raised:

- Where does the support for the funding come from?
  - Thinks it should be from industry, to buy a seat at the table to influence curriculum and provide an incentive to participate in the educational programs
- What is the pipeline of potential employees?
  - Young people vs people already working in other industries vs displaced or disabled workers, etc?

#### **Anonymous: Game Producer**

- Gaming is more culturally accepted now. Previously it will be seen as creepy in the basement. Now that it's more diverse and growing, we need more diversity in the industry as well.

- Developing now for bottom line and investors in a way that haven' been focused
- A very diverse set of skills is needed to make a game.
- The industry can be extremely toxic
- Study concepts : Crunch, the Trenches. Tells the horror stories of being a QA.
- Game industry is a small community. There's still a core group of people, and once you're in, you're in. Joke: "if you can make it in test you can make it anywhere" but you have to get your stripes because no one will hire you until you ship a title. Giant Catch 22.
- Too many generalists can cause stagnation
- There's almost a talent glut right now.
- Can make a game, but then have to go to market, and that takes a completely different set of people
- Partnerships have to be made to make a game successful.
- So many games are coming out now, especially in mobile factories in SE Asia, lots of competition there.
- Talent is hard to find. Everyone good is employed. With the cyclical nature of gaming, it's boom or bust. Bring on a bunch of people, then fire 75% of the people and then start the next thing.
- Tier 1 games that cycle is maybe 2 - 3 years, 4 years maybe, business planning is 5 - 10. Actual development cycles take 2 - 3 years. A lot of companies will use different studios to develop a bit faster, to have 2 year dev cycles overlapping.
- A lot of it is sub-contracted, can control costs and vendors that way.
- Components - may sub out those, or license different components from other companies instead of generating their own.
- Watch Call of Duty of Destiny credits, look at the credits to see how many people work internally vs externally.
  - Example of Audio - most of that is external.
  - Probably want an internal PM to control costs.
  - You try to hire as few internal people as possible to accomplish the goal, and then when exponential scale hits, need to
  - Xbox, has 4 core studios that are owned by MSFT, and create games for xbox. But all mobile apps and games are created by outside companies that then submit them to platforms. There are a ton of third party titles that have to work with the platform.
  - ArenaNet owned by another company - NCSoft.
  - Start with the cost and projected profit, and then from there you get how many people you can hire. Always want to keep the core thought of what you're trying to accomplish clear, and bring people in as needed and take risks on Associate Producers, etc.  
Doer/Thinker dichotomy
  - Almost all doers are contractors

Hiring:

- Had to build a web team from scratch at MSFT of vendors, needed a writer, designer, front-end dev, test, PM, all have different social and professional skill sets. Trying to get all of them to bind together to create a project.
- Hiring needs are role specific.
- There are good times and bad times to hire, right now it's bad, people are over-valued. It's hard to get people right now, lots of competition in the tech industry overall with really big companies. There's a limited amount of really good talent. People that can balance both personal/emotional and professional sides of their career, and be tier 1 yield.
  - Need to have a culture that supports them to retain them. Every week I get another job offer, constantly hit up by recruiters.
  - Most talent is found through peers. Most jobs I've found have been through peers at other organizations.
  - Once you're in, really important to get your network built. And then find people you respect, and then try to work for them. And then tribes are created. And then tribes travel/work together, and stick to a network.
  - He interviewed with 10 different groups when he left xbox, for example.
- People undervalue culture fit. The work-life balance concern is real.
- B level talent - you can get them but they get hit up a bit, and then C level talent gives you probably 50% yield. These people will tie things up in politics, they're about themselves, and this takes time away from the Tier 1 people.
- Trying to find force multipliers when you hire. Trying to find people who do their role but make other people better at their role.
  - Have to really support these people, and give them at least B level people or better to work with.
- Never doubt that the work is going to be done in a Tier 1 person. They have meetings where they're out there trying to make their teams better. Can talk to them about something honestly. No games involved. They're people you can trust, they aren't doing things that are going to drag you down.
- Interviewing is it's own whole quagmire, because sometimes people can be good in the interview but not in the reality. Have to trust your gut too.
- If the employee doesn't have incentive, they're not going to try.
- In a market like this, it's hard to find someone just at the Tier B level and won't get stolen.
- Understand and believe in diversity, but there hasn't been enough information out there showing analytical evidence of the benefits of diversity. When you go try to pitch diversity, you don't have a lot to go to bat with.
- In an interview loop, you're 3rd or 4th removed from the candidate. You might write the JD, just the work that needs to be done, but then that all goes to HR, but then they might use a 3rd party source, and they have to find candidates who are good enough to do the role, so hiring manager doesn't get involved again until the final round. And then in an equal interview situation, I'll take the diverse candidate, but it has to be equal first, and that's hard.
- This company is a bit more diverse, but overall it's a lot of white dudes in the industry as a whole.

- Cultural acceptance is tough too - a girl that plays games/or works in games
- I've worked with women but don't think of them as female, I think of them as another person on the team.
- GamerGate, looking at that is the dregs of the industry there.
- I don't really know how to accomplish diversity. It has to be part of the cultural mission of a company. It has to engage at the very top with a culture statement. This is what we believe in, this is the type of people we hire. As a hiring manager, don't feel like I have a lot of control over the whole process.
- We want the best of the best. For us it's making sure we get the right person at the right time, but it's hard to have control over things like this, diversity. It's really up to HR and the institutional leadership and what they want to do and believe in.
- I do think informing though is critical, informing change is critical.
- Read the Forester studies on women in gaming - the number of women playing games, etc.
- Find women in technology club exclusive and the diverse background group clubs, but the other ones don't feel exclusive. But I think that's important, want to be able to express diverse thoughts and opinions openly.
- The game industry being very young, in age of industry and workforce, is more apt to change than some of the more established industries.
- The hard part is when information comes out segmenting people. We need more women, for example. Or, it's your fault this is a problem. No one is saying no, we just care that you are good at the job and be nice to other people.
- Digipen is ridiculous to me. People spending 200k to get a test job. We need to respect trade degrees more. I don't see the value in the 4 year college degree, there's no need for that much education.
- Code jobs - 25-50% you need to come with, but then you learn on site in training and how you excel in those training materials on the job developing yourself.
- If we were able to pipeline people into entry level roles (test, associate producer)
- Self-taught people are awesome. Because you know they have the discipline to teach themselves.
- It would be nice to see companies take on more of the education role to put people through the education pathway and turn them into a tier 1 person in our internal organization. There's so much focus on acquisition that people aren't developing their resources.
- Right now the current path to move up is 2 years, in each place, and then you bounce over to the next company.
- For some reasons companies value internal development less than acquisition.
- There's a problem with retention and development, need to focus on that a lot more. Cull the bottom 10%, I do agree with that, but get rid of the bottom group of people who don't want to do stuff anymore and drag down the rest of the team.
- If you can keep your core talent, though, that will help. Look at resumes of the developers in the industry, and you'll see the cyclical nature of the industry, and the 2 - 3 year nature of the shifts.
- Break the mold of HR and retain your talent you'd be way

## **Brittany Aubert**

April 17, 2017

Background:

- Went to digipen, got undergrad in CS. One of 8 girls in a class of 212. By the time we graduated there was 115 in our class, and I was one of 4 girls. Originally trained as a programmer, did an internship writing some tools at a game studio. After graduation went down path of producer. Very similar to project manager, but also is the team lead in a way. The designer is a lot like a composer, but the producer is a conductor. I'm taking someone else's idea and plan for what we want to make and then I orchestrate it. Figure out who on the team is going to be working on what. Making sure it's all scheduled and work is allocated. A lot like putting together a puzzle but all the pieces are people. And I generally work on just managing the team - overall well being, having everything they need to be successful. Team builds the game, the producer builds the team. Making sure that everyone has the right skill set but isn't going to jeopardize what we've already built.
- 9 years as a producer, 3 companies, most recently at City State Entertainment, I'm opening the seattle branch. We just hired our last headcount for the seattle office.
- Recently brought on two people - one woman and a man, and a third.

Where do you go for hiring?

- One of the problems is that the industry is incestuous.
- I run a monthly networking event for the industry, everyone knows everyone. A lot of that comes from the volatility of jobs. If a project fails and the studio lays off a bunch of people. Fostering relationships is really important because games is more of a creative industry. Personality is a really big deal.
- As soon as I got hired I knew we needed more, so I went back to my pool of people, and found a hetero white guy, to fill the role. Could have been doing more for the diversity hire, but knew this guy would be successful, so that was the best hire. Next one I hired was a woman, but don't think I would have found her if she wasn't already in my network. Then hired another hetero white man.
- It's hard because you have to convince people to go out of their way to find someone who fits the diversity niche. Especially problematic with small teams, and new projects. Don't want to take the risk with someone who's an unknown.
- Unless you have people thinking about that and have a network of connections to bring to the company.
- Maybe what we need is people with more diverse networks?
- Example; two friends, white men, one animator, who is really passionate about diversity and goes out of his way to hire people from diverse backgrounds. Knows the value of having a diverse team. When he has a position open, he immediately starts looking for people who are non-male, non-white. He's had a really hard time at his company getting people to hire women. Bringing people in to interview is not so much a problem. But the art director in that studio won't hire for diversity (and has very sexist views). So one

person can have a strong impact against diversity at the exec level. Even when people fight for diversity in hiring

- Most people don't prioritize that though, because concerned about getting a high quality game as fast as possible, earning money as fast as possible (need to ship!).
- Even when you have the network it doesn't always solve the problem, though, see above example. Guys at the top of the studio just want to bring people in. If you get two resumes that are identical you'll go with the one whose personality fits the team the best.
- There's still a lot of unconscious bias issues in smaller studios who don't have the resources to do cultural and bias training. But if you don't buy into that then you can't build a diverse studio. Big companies have resources to do the training, but small companies don't.
- It has gotten better, but isn't there yet.
- Idea: diversity training for small companies?
- Bigger issues with retention - lack of support for growth of women in the industry. And lack of support for women in the companies - stories of women who feel uncomfortable or who are told they are too emotional, etc.
- You need to have everyone involved in the hiring pipeline know that this is important.
- Problem with worker retraining is that people at the company don't know why diversity is important. Outline the business reasons first. And have to convince that in terms of money, bottom line, growth, profit. That's the easiest way to get execs on board. Why is it worth our time? Time spent finding people is still money spent.
- People shy away from using recruiters because recruiters take some of the salary. Even if you were to hire a recruiter to
- Even people who know diversity is important, finding the perfect person for the team is always going to trump the diversity.

What would the program need in order to be successful?

- Interview preparation. Every company interviews differently, lots have overlapping practices, lots are very unique, but the biggest thing is that people figure out in 30 seconds whether or not they like you. I don't know how to train someone how to be more likeable in 30 seconds. You could offer all the right answers, but if someone has an unconscious bias in the interview and they decide they don't like you it doesn't matter what you say. I think that might be more important than getting the actual skill set. The problem is not the skill set, it's getting in the door. Breaking the barrier of someone developing an opinion of you immediately.

Increasing diversity pool ideas:

- Pools only get bigger the longer you're in the industry. It's still about networking. Would like to break apart the recommendation of network contacts somehow, as a method to help that.
- Maybe you need to retrain people to interview the right candidates instead of retraining the workers?

What other industries?

- Film. That's the closest correlation. Writers, managers, lots of similarities in the pipeline. Film is very differing in some ways - studio maintains its existence from project to

project, but groups in film split up in the end. Pixar for example - animators, modelers, programmers, writers. A company like that is very similar to a game studio. That company maintains its identity from project to project.

- It's very software driven, though, too. If I were to get a job outside of games, it would be managing a team of programmers (and would be way more boring). Art and design and audio could come from other creative industries - writing music, text, dialogue, modeling, creating environments. I could go to any old software company.
- Math is vitally important for programmers. So that could be a source.
- The art side is more flexible, but that's completely different from company to company. Character dialogue, level creation, weapon design, character development, design itself is so incredibly flexible, this is the hardest to compare to any other industry. My designer friends - if they can't find a job in games, they have to leave and do something completely unrelated.

## **Audra Aulabaugh**

April 25, 2017

Intro:

Senior director for recruiting. Manage all of recruiting strategy and talent pipeline for the company. All the hiring initiatives, and what pipelines do we want to pursue and get internal commitment.

What are your biggest challenges in sourcing candidates for your open positions? (not just diverse candidates necessarily, everyone).

- The Seattle/ bay area market. It's extremely competitive, that's the obvious elephant in the room. We're up against companies that are much bigger (we're 700 people at big fish). We're up against amazon and microsoft that take a huge market share. The competition is the biggest, and getting our brand awareness out there is a huge challenge. We're a small team, so we don't have huge programs in place and people to run those programs. Only 25% of bandwidth on a program that we'd like to have involvement in.

What areas of diversity are important to your organization, what types of diversity are you looking to increase?

- Doing ok on women, would like to do more.

How do you currently source candidates?

- Anything based on the type of role that we're looking for. If it's specific, engineering focused, like WTIA, the WITTY stuff that's out there and available, we'll tap into those. LinkedIn, google searches, all the obvious postings that we can do targeted searches out of. Industry events - GDC, other communities where they have the ability to recruit talent.
- WTIA Apprenti - we met with them and talked about how we could leverage that, it's challenging for us because of immigration constraints, we have baselining to meet different educational requirements, but for something like Game QA we probably would move forward with a program like that. Those kinds of programs. For our Oakland studio that makes more sense (Engineering in Training program, moves people internally, and set up a plan that might bring external folks in, that's something we're investing in.)

We're looking at how we can duplicate or set up other kinds of areas in the company where people can do that. Migration from customer support to Game QA for example. We are looking at plans on how we can bring people in from outside the organization.

How do you source diverse candidates? (and is there a difference in these strategies?)

- If I'm honest, I've been hopeful we could do better with that. We have been on our target for that, but it's hard to go out and actively recruit in a diverse setting, if you don't have the community inclusion first. So we're working on building a community to support that. Historically, we've been building the bridge as we've driven across it. But we haven't had the time to set up the program in its entirety to support the communities internally. Our VP of recruiting is looking at that right now. IT doesn't make sense to pipeline until we have the support. Women who code in Oakland, we recruit there for example. But we need to focus on the community internally first.
- It is probably easier here to get women in the door, but would like to see that expand further.

If we were to source diverse candidates from other industries to work in game development, what industries might have an overlap in skills that you need? What alternative backgrounds could your candidates come from?

- Tech in general, we've been pretty successful to date from other tech backgrounds. You can get people who have done products in mobile and desktop and still be a successful product manager here. We try to get people from gaming backgrounds but that's pretty difficult, it's not as big as people think and it's pretty difficult. If you want to expand to different verticals it's helpful to expand into diverse fields. That's an area we try to drill home in hiring managers, is that you can't have bias around where people come from. Something like xbox is really different from what we do.

If we created a worker retraining program as a source of diverse candidates in game development, what should it include in order to be successful and helpful to you? Would you use it? Under what circumstances?

- It would be helpful to connect with leaders of the industry that aren't recruiting specific, that are overseeing whatever types of people they want to bring in - product, QA, etc, to build awareness in how the program could be successful and tap into them from a knowledge perspective to see what they're looking for. CodeFellows does a good job of this, they're really tapped into what the industry is asking for, and they can provide the training in a way that can be instantly leveraged. Train them with intention not just to train them. Targeted outcome that will be instantly valuable.
- Yeah we would use it, if it was set up in a way that we could leverage it and made sense.

If we were to implement a worker retraining program as a hiring pipeline, what challenges should we be prepared to address?

- If you get into companies that are pretty small that really rely on getting people who have x number of years experience, then we should start big and whittle it down. Start with big companies, and not just tapping into the small things. I think there's more appetite in larger companies. It's not that there's not willingness in smaller companies, it's just that most smaller companies struggle with building out the company and have so much to do

that they don't have the bandwidth to make sure that junior people can grow and be successful.

What could we do instead, aside from a worker retraining program, to increase the diversity in your candidate pools?

- There might be a lack of knowledge around how. Everyone wants to do it but doesn't know how to increase diversity. More targeted sessions on how to go about tapping into these environments, or being more successful in this arena. Where to go and what to do and how do you make steps, how can you show how other companies are doing this or using it, and using the education to help the companies take the leap that haven't yet.
- Everyone wants to do it but have a lack of knowledge.
- I hear that too - we don't care about who the person is, as long as we're getting the best talent. There's an assumption that they don't think about diversity - that we're just focused on the best people, and that's not actually the problem. The fact is that we haven't given these other channels the option of being the best, so that awareness is a big one.
- I've been putting a lot of mindpower around this type of stuff, in Oakland have more interest and bandwidth and just have the question of how to make it successful.
  
- Staff: I have three people here, and one person in Oakland. Two here are senior recruiters, one in oakland is recruiter, and plus one is designed to be recruiting coordinator, and evolving her role into recruiting manager, and trying to figure out how to get the most done that's the low hanging fruit. Just now starting to build out diversity programs and university programs and internships, and have a lot to do. How do I layer on projects to other recruiters on top of recruiting.
- I'm jealous of companies like microsoft and amazon that have the resources.

**WTIA Apprenti Program discussion: Jennifer Carlson, Sasha Rayburn, Jordan Shepherd**  
2/10/2017

Questions:

- Description/overview of program, what's the pathway for the participants, industry, and education partners?
- What is the goal of the program? Specific targets?
- How do you measure?
- How is it working?
- Challenges of the program - what has been more difficult than anticipated
- What has gone well or what is working
- What are your lessons learned/recommendations?

Notes:

- WTIA Apprenti program is an apprenticeship, not an internship. Internship model failed them in the past because of :
  - Lack of consistency

- Quality of internships so variable they don't know what they're getting
  - Professional/soft skills lacking
  - Companies were no more inclined to hire them on for full time.
- Other ideas to solve these challenges that they have seen with industry:
  - K-12 investment to improve the long term pipeline for tech workers
  - Support for H1B visas
- Setting up their program involved partnering with the dept of Labor to create a registered apprenticeship, a dozen companies signed on initially
- Got funding then to run the apprenticeship program nationally
- Apprenticeships are a protected class
- Minimum 1 year commitment from all participants, and a mutual investment of 2,000 hours.
  - Could build something more intense for more money.
- No one can leave the agreement early.
- They then built the descriptions of the jobs, standardized job taxonomies to train for
- They work with pre-vetted candidates, and focus on women, minorities (hispanic, african american), and veterans.
- They do not currently focus on gaming, because in conversations with Big Fish and Wizards of the Coast found that their needs are too intense for a 2,000 hour program.
  - Apprenti program can teach just the basic "dev" side but not specific to gaming.
  - In Games they found the industry wants more higher order math and algorithmic capability, and that would need to be 3,000 - 4,000 hour program with higher order math included.
- Most of their current applicants to the program already have college degrees, just not in STEM disciplines.
- Most applicants lack the networking skills, even if they might have some of the technical or job content skills.
- They pre-screen/assess for:
  - Math, logical/critical thinking, and emotional intelligence.
  - Also do an interview for professional skills
  - Companies then only interview a candidate for attitude and cultural fit
- They require the company to commit to the person when selected.
- This program helps to eliminate the bias of the college degree.
- This year, 822 applied, 60% fall off rate, 380 applicants scored 70 or higher on the assessments.
  - 39% women
  - 54% minorities
  - 17% veterans
- The application process is an endurance based system set up to reward tenacity.
- Focus is on training for mid-tier jobs.
  - Year Up could be a feeder into this program for example, they are more lower level.
- We have the ability to add occupations and flex the training as needed, and source additional companies based on the needs of the industry.

- They do not build curriculum.
  - Asked the companies what do you want, and then put apprentices through the certifications programs that already exist to get those skills. The needs vary by market and the cert programs chosen vary as well.
- Want to stratify the job hiring needs
  - What skills/jobs require a 4-year degree, versus what is required for everything else. And then meet those needs with training programs.
- Challenges:
- The tech industry has elevated its expectations in these jobs.
- When we talk about reskilling, a key question is what types of workers should we reskill? Existing employees who want more of a technical role might work, but people who have been forced out of their roles might not be a good fit for retraining.
- The key thing for companies is to be able to tell them you are not diminishing the quality, the company needs to know that they are getting high enough quality in the pool. It's challenging to find a way to integrate that into this model.
- Matching competency requirements of the roles are just so high on expectations in gaming.
- Also, finding the right people to do the interviewing will be key as well.
- Hiring partners won't want anyone coming out of community college (though have had success with Digipen).
- Worker retraining that is done through the state - challenge there is getting the money to go far enough.
- Recommendations/Cost:
- No, don't do a worker retraining program.
- It costs 1.5 million to run
- Need to hire curriculum specialists, and Apprenti have already done all that work, would be better to just run something through WTIA.
- Took 15 months of time to build the infrastructure for their program, and that cost 1.5 million. Revisions to the program took another 150k, plus marketing and PR of the program, and costs for capital improvements and expansion were another 250k.

## **Joe Cudiamat**

April 8, 2017

Joe: Technical Account Manager - works with the Engineering teams at product groups at MSFT. And help them with their engineering process/waterfall. I work specifically with Xbox and 1st party and 3rd party studios, and MSFT research.

- There is a lot of difference between Mobile vs PC vs Web, vs gaming related, esports and streaming for example.
- Gaming is a very specific skill. Could break it up to several personas and what it takes to produce a game:
  - Artists - work on character modeling, level design, texturing, overall type of visualization and cinematics that go along with the game
  - Sound - music, sound bytes, effects

- These are very specialized skills
- Level Designers - not artists, but look at what the overall experience is going to be, and how does this fit into the overall story of the game - almost like storytellers. They enhance and think about a book end to end, designing from a framework perspective
- Software engineers: gameplay engine, mechanics, AI component (what are the actions against the player) learning patterns, the AI has gotten advanced enough to a point that you run a certain play a certain frequency, and the game develops a defense against that
- QA - testing: testing whether light etc works the way we want, does the sound come from the right place, etc.
- When we look at a collection of game content, it's very different from software programming, lots of different files it would take to build a game.
  - Content files- 3D super large content type files, with many specific 3D authoring tools (There are often challenges finding these skills)
- Game engine vs game content - studios could do their own engines, or could use third party (Unity and Unreal are common 3rd party engines). Game content - that's all the second part of the game that the studios bring.
- Triple A development can get really large in its footprint because all those items are really large, high res and high fidelity audio, visualizations, those take up a lot of space. When we moved into the 1080p world, it was a huge step up in size from what we were doing before.
- Also need a strong understanding of hardware components that we're working with. Need to understand that because the complexity has to be supported by the hardware.

Things that are hard to find when hiring:

- A different mindset. Sometimes you'll have a traditional programmer, and then when they enter the gaming studio, they're not able to adjust successfully. Reason is that within traditional application dev, you have a feature set you want to create, so you just develop that by writing an algorithm. In games it's different, you have to think about it from a storyline standpoint when you're doing engineering. Almost developing AI into your feature. The AI component is still a skill being finely tuned. That's probably one of the areas we need. AI will have a huge growth in the next 10 years. But games are a huge part of the AI component.
  - Understanding the different areas of the development stack is hard too. It's different from the process
- Highly desired to have people who have had experience working in game dev first. We want people to be familiar with the different tools, we want them to be effective quickly, not learning, we want them to be fairly familiar already. We stick to the standards in the gaming space. To attract the right talent, we want people to be very familiar with the same tools they've always used in the industry, and we want them to come in and start working.

Could a retraining program work?

- Depends on the motive of the individual. Gaming is the most passionate side of tech. If you walk across a gaming studio, everyone there cares so much about the game, that if that person was just looking for a job, they won't be successful. If they're passionate, they'll fit right in line.
- Learning the tool sets is fairly easy for anyone who has that type of comprehension (lots of videos on the web that give free trials and familiarity on these tools). But passion is a foundational component.
- Competition is always a challenge - how do we get the high end art or the high end designer. There is still though at the entry level not as much competitiveness, it's more about the appetite of the person.
- There's always a need for an entry level or mid level person in the gaming industry.
- It's in the interest of the studio to keep people, but moving up, it's very competitive.
  - Entry level - to build up a studio, you're not always going to be able to hire a mid range tech person. So sometimes a studio will take chances on building up the talent themselves. If they see a lot of potential in someone. This is not a lot, though, the need is there. Also getting new ideas. New people "haven't been tainted" and don't have bad practices, and mind isn't already set when they come across a problem, etc. That viewpoint can be shared across the broader team.
- Another area where you don't really have to have gaming experience is in the IT space. Every studio has an IT team, and they're generally running the infrastructure, and dealing with the desk-side support issues, there are needs there. They manage the services and builds, so they put together all the different frameworks for each team while the teams are focused on creating the individual content. That's completely outside the game but sometimes people with an IT background can be successful. If I was thinking in terms of entry level, there's a broader range on that side. If someone were to get in, this is another way to contribute.
- Doing the right thing by getting different perspectives on different companies. Talk to Big Fish. That's important.
- There's a huge and radical movement within the software world about the notion of cloud and cloud enablement.
- Having an understanding of cloud is super important. When we think of traditional development, it's different, what does it look like to be virtualized and be everywhere. Just another thing to take a look at.
- 
- Definitely a need for people who are passionate and good in this industry. You can be successful, just need to be all in.

## **Kate Edwards**

November 24, 2016

- Operation Diversity in gaming
  - Intel is a leader here - improving diversity in the industry, lots of focus internally on this.
  - Focus on executive compensation tied to diversity

- Brian Kuzanich is leading this, and has made progress.
- A lot of their business is driven by the gaming industry, graphic cards and chips
- We convened a group in 2015 to address diversity after GamerGate
  - Focus on two areas: retention and acquisition.
  - For acquisition, primarily looking at how to get more women and people of color into the industry.
- Three areas of focus:
  - Industry coordination (Kate leads this)
    - Marketing and metroing existing diversity (Carol Shaw at Amazon)
    - Online citizenship (harassment) led by Kim Swift
- Portal idea - Kristina came on board to that.
  - Education already exists, but we need to know who and what the organizations are.
- Kate sees a lot of people who are interested but don't know how to get into it or where to start.
- We need to understand where their passion lies as it relates to games
- Annual surveys of devs gauge their level of passion, it's huge, developers are very passionate about their work in this industry, it's in line with artists and musicians.
- Playing games is not a prerequisite or even really related to the creation of games
  - Need to communicate about this
  - That it's a passion-driven industry
  - Passion is needed for success
  - Or love of unique challenge
- Ideas for a retraining program:
  - Depends on where they're coming from.
- If we assume these folks are older
- Want to leverage skills they already have, and how to retool that skill to game development
- Will need to come up to speed on what a game is and how it gets created
- Challenge - narrative structure - this seems to be a skill that's hard to find
- Game User Research also needed
- Player interactivity and how to deal with online communities are skills that you don't have in other areas of tech that are needed in games
- Retraitees/new recruits would need help understanding what the game industry is and how it works
  - Including schedule, pipeline, job functions, important to lay all this out for people
- There's no one in this industry who "just makes games" other than solo independent developers
- People will need to understand their own strengths and what they can contribute
- Areas of Need:
- Lots of people want to work on front end dev

- Hard to find people in back end dev , server side stuff, and efficiencies
  - Hard to find people who want to do the nonsexy back end stuff
  - Finding a way to sell that to people would help - your name in the credits, you're working on the game
- Hard to fill the role of Producer
  - Skills needed: Program/Project manager
  - Director of a film is similar
  - Leading creative vision, overseeing all the teams, shepherd the project through, keep it on schedule and under budget
  - Hard to show track record in this, can often say it but not show it
  - People need to understand how it's different from other tech
  - Need to be able to prove they can drive projects to completion
  - Need to be aware of crunch time, and the impact that this has on staff and diversity
- Creative Side is mostly pure talent and software tools
  - What's required is just to show your work, and if people are amazed by it then great, you can be qualified for a job.
  - Technical skills needed: Maya, ZBrush, Modeling tools
  - This is huge for retraining artists and designers, to give them the technical skills
- Narrative design: needs writing skill
  - This is the most transferable of all skills
  - Need to learn about narratives for games though
  - Play the games and study them - this is the best advice for people who want to get in on the narrative and creative side, it's the most coveted job in the industry
  - There's some celebrity that comes from the Chief Designer role, and people covet that (Example: Jason at UbiSoft)
  - For Game Design, you actually need an education program in this, from Digipen, AIE (Academic Interactive Entertainment)
    - At the AIE program there are some students who are doing second careers/career changers, talk to them.
  - Key skills: need to know how to communicate to different types of people.
- Lower skilled jobs: QA testing
  - Lots of people get in this way
  - People who manage QA efforts need to know their stuff, and be very skilled at it
  - This is more entry level
  - If you want to work in game industry but don't know what, it's a good place to start.
- Other areas to apply skills:
  - Localization: needs language skills
    - This is a good entry point as well
    - Localization testing: verify that the localization is accurate

- Especially needed in Eastern european languages, Estonian, Latvian, Southeast Asian. The markets for French, Italian, Spanish, German, Chinese are all saturated.
- To do this might need to work through a localization firm, though.
- If someone has skill in programming they won't get a job, unless they go through a program like digipen.
- Emphasize that it's not just the core creative industry. The industry also needs:
  - HR, law

## **Soren Hannibal**

March 7, 2017

Soren Hannibal: Developer/Manager for MSFT Minecraft

Intro:

On the Minecraft team as a programmer, and manage a small team of 4 programmers and have been a manager for the last 6 or so years. Team size has varied a lot. People tend to move around a lot at MSFT.

Skills needed in the industry:

- Look for people who can actually program, write good code, that's the main thing, but it's very hard to find. It takes years of practice and you have to be very stubborn to get to the point where you can deliver good code.
- One of the problems with software development, if you're a bad programmer, you don't just have little output, you actually have negative output. Having bad programmers is worse than having no programmers.
- In other software development, you make the plan for what your product will look like and then start executing. In games, you can plan but there's a lot more trying to see if it's fun and then reiterate. There's more exploration built in.
- There seems to be more cooperation with completely different types of personalities. In regular software dev, usually deal with other programmers, but in games, you deal with artists, designers, sound designers. There's a different vibe working with creative people. The different types of personalities makes the team more fun to work on.
- We look a lot for communication skills as well. The ability to get work done through others.
- I work with 4 other teams in completely different parts of Microsoft for example.
- A lot of people are very passionate about games, and that's different. People go home and play games, and bring that passion home with them. Depending on what kind of game it is there can be a big problem with diversity and the tone of the team.
- For Minecraft, it's played equally by men/women etc, and that's not so much of an issue. But something like Call of Duty, very competitive, and get the feeling that it's much more competitive and strong, LOL similar.
- More and more there are external partners helping with different things, contractors on site. But still a lot of development that happens on site here though. Contractors are increasing for a lot of positions. A lot of junior people come in that way, especially artists.

Where do you recruit from?

- I don't have direct involvement in the sourcing, but we tend to get a lot of people from Digipen. That's one of the main places we go when we want new junior hires and interns. That seems to be a natural fit. They may not have the theoretical background, but they have a lot of the practical experience to be functional on day 1.
- We get a lot of candidates who come from other parts of MSFT. Especially for Minecraft, peoples' kids play and they get intrigued.
- Once we do hire someone successfully sometimes they go back and talk to people for more candidates at their universities and prior companies.
- Challenges - in an interview, very hard to tell if someone can program in the interview, and hard to know off of their resume what they have done. We look for people who are networked - who have worked with others who can vouch for their work.
- We like to hire from digipen because it's team based work.
- We do white board programming interviews, that helps to find some people who can program, but I am concerned about there being a bias with those. I think outgoing loud white men are probably better at that, for example, other candidates might take their time and be a bit more timid. Diverse candidates seem to take their time more and be more quiet about the problem.
- We use the whiteboard not just to see the programming but to see the thinking, did they think through it in a way that indicates the ability to think through a problem and apply that thinking to real world scenarios.
- Might also be a problem for english as a second language people. When I got my first job in an english speaking company, it's hard. I was pretty confident programming, but speaking was a challenge.
- Personal history: I'm from Denmark, and moved to England, started working in a video game company there.
- We haven't been interviewing people from other countries as much, only very senior people, and then not from very far - Canada. Mostly interviewing people that are local. But I think other teams recruit nationally to find the best, non-game MSFT.
- When I was in SoCal, we hired a lot of people from video game school in Florida.
- We prefer to hire people from other companies, but the issue is that there is such a shortage of experienced people.
- It's easy to burn out in this field, it used to be common to work a lot of overtime. And since then it's changed a bit, there's less overtime, and the attitude has changed around that a bit.
- I think one of MSFT's strengths in general, not just in games, we focus a lot on quality of life. You can have a life and a family here and still work on cool things.
- We have a bunch of people that left for Amazon and have since come back, because of the challenges around quality of life. A lot of silicon valley is like that too, and a lot of the smaller startup companies are like that as well.
- Minecraft is trying very hard to follow a different model. Instead of working so hard for 2 years, we do a release every 2 - 3 weeks because we run the game as a service. So we work at a more steady pace. Our model is set up a bit better for that.
- If you ask the people on Halo and others, you'll get very different stories.

## Worker retraining - reactions and thoughts:

- I think it would be great. What I look at when I see a resume, I look at what games you've worked on before. The worker retraining program would need to include making games. If so, that would really help. Make sure there's a website set up where you can see the game or videos of the game.
- Seeing people write about technology in an unreleased product, that's not good enough.
- It doesn't need to be a giant game, it could be a simple game that focuses on one aspect.
- Minecraft needs something different than what other game development teams need. Most AAA teams use different technologies than smaller and independent game developer teams. Depends on what your focus is, what you'd need to teach.
- Most common example - Unity3D, enables you to make games and is most common software to make games with. But, Halo, Call of Duty, Forza, or any of ArenaNet's games would be made with it, but slightly smaller teams would use this. It uses C# as the programming language. Focus on learning that and getting those kind of jobs.
- If you want to work at our company, need to write things in C++ and you're more on your own to learn that.
- It takes a long time to master this. I would say that some teams like ours you'd need a lot of expertise, but other teams you may not need as much.
- If you're retraining from people who already have programming experience, then they might know enough theories and be able to write code already. I think it's also more likely to find people that would be able to pick up C#, that's easier than C++. Depends on how long retraining is supposed to take.
- The pipeline is hard, not a lot of women getting into a place like digipen, and even getting into computer science in general, requires so much in high school even to get into those competitive computer science programs. And not all of the things that the high schools require are even necessary.
- People assume there are super heavy math needs in this work. But I think that's not true. The vast majority of the work isn't math it's logic. Some of us do higher level math, but not everyone. The rules and logic are the important part.
- I didn't even take calculus in high school and didn't take any math in college, but I am doing just fine. I'm working on some of the most advanced math we have in our games.
- If you want to focus on animation, graphics programming, math is needed there. But a lot of other areas, like UI, game play logic, etc, need very little math.
- The bigger problem in my mind is that to get into computer science you need those AP classes and not everyone can successfully go through those.
- Programs like digipen, they make sure they cover all the different areas, and math is important.
- Other ways to help diversity pipeline
- Help with interview training, that's a big thing.
- I think the biggest problem is that there are a lot of people saying they want to increase diversity but don't really want to do the investment in high school and college. Really we need like 5 times as many people to go through computer science college degrees. We need high school to prepare students for computer science level classes (AP etc).

- The things we're doing to try to entice the few people who have already made it through college is not going to change diversity. There still will only be 10% or less.
- Before joining MSFT, I never saw a single resume of a female programmer (maybe 1).
- More women in Art and Management than in programming, fair number of female producers, artists, but far fewer in programming.
- I think a lot of women and minorities are probably turned off by the alpha nerds. That attitude of "I'm the one who knows everything" and that starts very early. In college it's too late.
- It might even start even earlier - as kids - how are girls vs boys socialized, education opportunities for girls, etc. Already at age 4 there's a difference in behavior.
- One of the things that can make women or anyone want to try software development is probably video games. There are ways for kids to make video games. It's not like you make call of duty, but you can make games at a very young age now. But are enough kids trying that? Maybe that's something that at age 7 or 8 you can teach to kids. Learn very useful skills doing this in life and technology. Adding this in earlier might help.
- Maybe one of the solutions is to focus on 7,8,9,10 year olds. I know my daughter will be learning lots of programming at home, but that's not a solution in itself. If I teach her, that still doesn't solve the problem that 80% of kids going in are not having that focus.
- I think hour of code is a very good start! We're very happy at Minecraft to be part of that. Our minecraft module as part of that is very popular. That's a good start.
- But there needs to be more. There are several more steps that we could use to have the full pipeline, need to keep it going.
- I want to help the very small percentage of female producers/programmers thrive, but I'm afraid that when I push these ideas on them, the burden goes on those few people, when really the burden should be on us to help resolve it for them. As a male leader this is challenging.
- In computer science, there's not much focus on self-awareness, it's much more focused on outcomes and technical skills. In my college experience there was nothing about personal development. Computer science programs in general this is true too.
- Everyone very willing to talk about it, but is anyone willing to pay the cost to wait for the pipeline to change over time. Is MSFT and Amazon etc willing to invest in high schools and colleges around the country, and not just those in Redmond. Everyone wants more diverse candidates, but we also want the best programmers, NOW. We can't invest in something that's going to give too long term. Concern about paying money and not seeing a direct return.
- Why would someone like ArenaNet invest in education? Unless they hand hold them all the way through, and the industry changes too rapidly to wait for those students to manifest. That's the problem.
- I think the solution should come from a government level, this is where we as a country need to invest for the future. But the US is quite different in what it is focusing.
- I really hope you go somewhere with this, we all want this to work out better, and we need someone to pay the cost for it.

## **Dr. Jin Ha Lee**

February 17, 2017

- Challenges:
- To be effective a retraining program would likely need to be 2,000 - 4,000 hours.
- Unless it's a really rigorous, multi-year program, won't be effective.
- I think the interest would be there from industry but would be highly dependent on financial, finances are a big issue, who would pay, and how much.
- You would also need certainty of job placement, company commitment would be required for hiring.
  - That would increase chances of success
- Also highly recommend a partnership with Digipen, rather than creating something new.
- There is also the issue of participants being exposed to problematic issues in gaming - the fear of being in an unfriendly workplace, people who have been burned by their past experience in gaming. Ends up highlighting the question: is this really what I want to do?
- For the students, awareness of the issues around diversity in gaming is important.
- Corporate people should come to the classroom and talk about these issues and help students become more comfortable with entering that space at an earlier age/stage as well. For example, how we think about diversity could be very concrete (as in, how do we provide workplace support), or very philosophical (how do we think about users?).
- There are lots of students who want to go into gaming and existing ways to do that, the UW Gaming Metadata course, or Capstone projects to create games.
- In her opinion, the need is for clear pathways, not necessarily for retraining. Show people how they can contribute to gaming with your skills, and how can you use what you have to contribute to the industry. This involves a need to understand the industry in the first place as well.
- As for getting more diversity into gaming, we do need to ensure there are more people in the pipeline, but we also need to think differently about other domains outside of the developer role, and how diversity there contributes to the benefits overall.
- We also need the environment to be friendly enough to women and minorities.
- Jin Ha is currently working on a study related to motor impairment and gaming, to identify what kind of metadata is important to impaired users so they can add this in to the metadata. She is interested in connecting with more companies about this too.

## **Raymond Yan**

May 18, 2017

- We have three locations, Redmond, Singapore, and Italy.
- We've tried various types of continuing ed programs.
- Turnover rate here in Seattle is very low in most companies. Trying to offer continuing education - we've tried this a number of different ways - intro to programming, art, character design, environment design.
- You'd think that companies would be motivated to offer more, but. We tried years ago to do night school passes - that kind of worked but not really, never took off. Reached out

to HR people in different companies, and the response was extremely low, but not really sure why.

- Other programs are exploding - K-12 stuff for example. Did some of the continuing ed online, maybe that's helpful through life online training, but not a big response, not a lot of traction. So I would go out and talk to people at events, how about some additional training, so we worked with individual companies instead, and the response to that was really good. The challenge we found was the culture.
- Hard to run a training program if the employees aren't totally bought in. Most of these experiences were trying to determine what the employers are interested in.
- Very customized seems to be what the local studios want.
- Previously - was head of art and design for Nintendo.
- Lots of big questions on supporting communities and training and how to bring in great staff.
- Masterclass program, inspired by that. Supporting that kind of content would be fantastic. We have so and so lead game designer, as a way to share the masterclass with the industry. Ted Talk-ish.
- Highly personalized.
- There's a limited long view for most of these companies.
- In Singapore - gov is very proactively focused on knowledge workers and knowledge economy. Biotech, special effects and video games. At end of the day you have to embrace the culture that's there. Can not impose your structure, because culturally doesn't fit. Our graduates are getting hired like crazy, and we're very successful. They've brought us in under Singapore Institute of Tech - we were invited to be part of this university that has a bunch of international universities underneath it. Residents will get subsidized tuition there.
- We launched continuing ed there to help get immediate help to the employers there (because normally we have a 4 year program)
- Ubisoft partnership with Digipen.
- In one year to try to teach someone with limited skills to be hireable its' intense. The idea was that people would apply to digipen, we would select and train them on very specific skills, multiple milestones within it, those students that made the cut were guaranteed jobs. Ubisoft was brought in because they committed to hire 50% of students (at the time we only had 40 students). It was like Navy seals training for game developers and programmers. This was successful. About 60% of students made it through, and 100% placement, and were being hired even before graduating. When we finally graduated the students, the government was on board and very happy. Now, our enrollment is virtually guaranteed there.
- But we have to work hard to get students in the door here, because the tuition is expensive, 40k per year, plus housing etc. In Singapore that's not a problem.
- We've had way more success in Singapore with continuing ed because the government has provided meaningful funds to help people step into that area.
- We offer a range of science classes for K-12. Yesterday was teaching chemistry to kids. We teach kids as young as 5. And we know that if we can teach kids, we can teach adults. We have a high school program who come every day to earn college level credit.

- The question is what is the market looking for here when Singapore is screaming can you add more programs. Just yesterday, we were approached by a publisher in Korea, and reached out to me about a physics for kids class. Digital interactive material, book. We believe we can teach this to anybody, and our mission is to help students feel empowered. Our philosophy is to deliver more of an individualized educational experience. We really have to deliver something for our pricing, that Udemy etc can't do. Need to get to know the students, the company, what do they need, and tailor it to them to be really effective. Can't force it with these companies. We need to go out to them and solicit what do you need.
- At the moment we're working really closely with LWIT to share equipment and resources. From a continuing education perspective, we could create some sort of certification that would qualify the program to get funding through workforce training. I've thought about this a lot, and this is the latest success i've had was with LWIT. We're going after the other institutions that are more likely to look at the continuing education in a serious way. We're looking at Bellevue College, Cascadia, etc.
- If WIN is able to bring some resources, and understand the ingredients that are available in the area, that's really exciting and opens up some possibilities for continuing ed and kids and parents together, etc. And if you do it, we're willing to give credit across institutions etc.
- At the end of the day we have to go out to the companies and find out which companies would value something like this, understand what they need, and then propose a collaboration.
- Our high school program is publicly funded, if they pass all their classes over 2 years they're earning like \$25,000.
- We really want to try new things here, we have a lot of innovation potential to figure this out. What can we do to bring training to people, to make it compelling, affordable, and instill a spirit of wanting to learn. But so many people are caught up and they don't make the effort, but that spirit is what is needed to have the entrepreneurial spirit to be successful in this business.
- Here we believe that anybody can truly do this. People come to digipen because they're chasing a dream. Not just to teach. Our entire organization is to help you achieve your dream. That's a very different mentality. Can we instill that to companies?
- I can not create a con-ed program that's structured in a particular way, it needs to be structured to the particular company and the particular employee. Not easy to execute, but I think the demand has got to be there. If companies don't invest in this, how will they find talent? It seems like a huge investment.
- If you have an idea, let's find a way to start it, and I'm prepared to try it. Homeschool program is a good example. 160 kids signed up just right off the bat. Have to embrace failure, and not doing something means you're sliding backwards. Playing safe means sliding backwards. We try to mitigate risk by doing small things to try.
- The reason I take online classes - very succinct, they're open to me for the rest of my life, and inexpensive. The Con-Ed experience has to be mindblowing to compete with that these days.

- Next program here is opening a K-12 school. The differentiator for us is that our school is backed up by a well-recognized university. With specialists. Bring in people with that passion and then forget about the grades. Our entire K-12 system could be built this way, we have a backend system that will be tracking the learning/knowledge system for each student. Competency based approach.

Additional information via email on May 19, 2017, in response to questions about budget:

Hi Janet,

The issue with the budget is that we need to first think about the parameters and outcomes we are trying to achieve, which I think would need considerable input from local employers. If we are looking to create the type of graduates we have at DigiPen, where we take in individuals who have little or no experience in the various tracks (eg. programming, fine art, etc), and provide a strong foundation and extensive production experience expected by local employers, it's not going to be cheap. I know LWIT now has a new Digital Gaming and Interactive Media program that I believe offers a two year associates, or four year bachelors degree (it's an option of two more years beyond the associate degree). So at the lower end tuition-wise, you can look at what they are offering (<http://www.lwtech.edu/academics/digital-gaming/>) to get a sense of what the cost might be for someone who has little or no experience. From what I can see, they estimate that their applied baccalaureate for a student taking 15 credits each quarter (for 6 quarters) would be about \$14K.

If you are looking at training someone who already has foundational experience as an artist or programmer, and who is now looking to apply their skills specifically to the interactive technology fields like game development, you can look at a shorter program. For our Ubisoft campus program in Singapore, students who were selected had some experience, most of whom had gone to some type of digital media or computer science track in one of Singapore's "Polytechnics". While their skills from the Polytechnics were not particularly strong (this in addition to the fact that the male students had take two years off after going to the Polytechnic to go to their mandatory military service), the students were at least somewhat familiar and experienced with basic concepts.

The key point is that if we are expecting the students to be hireable within the gaming industry, the expected skill level a graduate of any program must be able to clearly show a high level of competency, which is very difficult to achieve in a short period of time. Trust me when I say that if DigiPen could cover A-Z in 1 or 2 years, we would be doing it (and so would LWIT).

Of course, you can also look at the "boot camp" model that have sprung up over the past few years. Their promise is jobs after 12-18 months of intensive training at a price point of around \$10-15K. My general anecdotal impression is that this type of program is not for everyone (given the intensity, much like DigiPen's Ubisoft program) and that the completion rate is not very high. To be clear, this is a general impression and it is entirely possible that some of these boot camp programs achieve a higher result...and I do think there is a place for these types of program. I also think that part of their outcome is not necessarily jobs in the game industry, which require a very high level of skill. I believe many of these boot camps are producing people who are more likely to work on web-based systems and mobile apps, and therefore, do not have to go as in-depth in all areas. While this may provide the student with job opportunities, this

approach produces more of a "one trick pony" that may limit career growth for those students who do not proactively build on their skill set. What is nice is that the vast majority of the industry jobs do not require any academic credential like a degree...it's mostly a question of having demonstrable competencies. As one option in Seattle, you can check out Codefellows at <http://info.codefellows.org/>. Another school I know of is called Coding DOJO at <http://www.codingdojo.com> that apparently covers content in 14-18 weeks.

I do think that as part of your research, you do need to look at posted job opportunities, particularly for skills and experience requirements. Perhaps you can even connect with some HR people at some local software development companies? This will help give you a base line of what they are really looking for, and may even give you recommendations for the type of program they have found to be effectively providing employees. I'm sure you know this but I always believe that we have to be pragmatic about training programs, and not gloss over the intensity of training and the types of jobs that any program would hopefully deliver. Different types of students need different types of training.

Ray

### **Roundtable Notes**

April 26, 2017

Jason: Been a while since I worked in a big company, what's the attrition of a particular diversity group, do they experience a higher degree of attrition?

Male: Have an easy time getting diverse candidates in the door, but retention has been the hard part, and that we've struggled with, trying to figure out why that is.

Can't just do a program to bring someone in, need equally powerful retention programs too.

Wizards woman: Scorecard on a quarterly basis that looks at our hiring, gender diversity. It looks at who's coming in, who's going out, promotions we've done, and what is the mix at each level. It's important to be aware of parity coming in but also are they progressing, and are we getting as many women in positions of leadership as we aspire to. I have a leadership team who this resonates with.

We do exit interviews, but we're not at a size where I'd say you can see a trend that is actionable.

We're in the same position, 700 employees, we track diversity and inclusion on the retention side. Is the work interesting, do they have career progression, it's difficult as a smaller organization. We've promoted from within 80 - 90% of the time. Need to figure out how to create more opportunities. WE've not seen people leave for diversity reasons, but for commute reasons, and where we're located, and things we don't have control over.

We're trying to comb through all of our self-report data on diversity to make sure our data is clean. Exec team is currently 30% female, and 38% minority. Our company as a whole is 38 - 40% female, challenge in engineering and highly technical pieces.

Different female: The organization might be diverse as a whole but how can you make each division more diverse in itself as well, not just women in product and marketing.

Female: have a bunch of women in localization, supply chain, and they buoy our numbers, but struggle with software engineers.

Attendees:

Senior VP Product and Marketing and GM of games studio

VP of HR for Big Fish

Chip, WIN business development

Lead Gaming for Everyone in Xbox at MSFT, was in HR before that

Katie - MSFT in HR and then Operations, VP of HR for Wizards now, report into Hasbro

VP product development for games and tools

Jason - startup 3 years ago started, 8 of us now, prior to that a director at AWS focused on game development for SDK, separate from Amazon Game Studios, prior to that, president of Electronic Arts in China.

- Advancement in retention is one thing people are focused on. When you're doing recruiting - what's working?
  - Wizards has not had a formal intern program until now, have had a very strong focus on diversity, but can't tell you what percent are...more than half come from diverse populations. I think college is a linchpin. Retraining programs could be too, look at it as a similar pipeline, we would need to make space in that internship program. You want to make the same commitment to a retrainee that you would with a new college hire or intern.
  - How people get captured - if we look at it like a pipeline, that's where we could target, college.
  - The gap starts earlier than college, high school and younger. We've added in a gaming workshop in game design for girls. There's a gap in mentality in I love to play games to I want to make games. Want to help people make that leap. Lots of organizations out there for young girls specifically. iUrban another example, takes high school kids and will go to a company for a camp. We'll sponsor a day in August at Xbox to expose kids to what a career in game industry looks like. It can be really daunting and to make it real/tangible of what it could look like is what we want to do, and then pave the path to college.
  - Have seen a lot of success with digigirls. Many girls we started with graduated college and then are coming back. The investment pipeline needs to start really early.
  - In Oakland, an organization we participate in that gives kids a bootcamp after school program where they can make games. All of that does make a big difference. But also look at what are the other organizations that create interest in college and get through the college experience. Are there things that companies can do to get more support.
- Is there anything that hasn't worked at all?

- At MSFT, once a month in the afternoon we would source diverse candidates. That did not work, did not increase our pipeline. That brute force approach didn't yield the results that you'd hope a focused effort like that would yield. G
- Going to Grace Hopper, engaging with students, and then nurturing those relationships over time does work. But that's precision investment and a huge investment.
- WTIA - doesn't make sense for us budget wise, to take someone on that's going to require a lot more support. We need someone to hit the ground running. It takes a managerial capacity to be able to support new / fresh hires and bring them in, do we have the capacity to support it, do we have an SOW , do the managers have an SOW.
- What we've found is that our college hires at MSFT ended up being the future leaders of our company. The college hire program has been very very successful. We're hoping that out of 25 interns, 75% will turn into full time hires. And then they're juniors, so we have another 9 - 10 months to utilize our attrition to fund the open positions. It takes the long term thinking and creating the financial systems to ring fence budget and head count to put that in motion. As an HR professional thinking about how to integrate retraining, it would probably be something similar to that. Making a commitment to hire 5 stay at home moms (personal passion), for example. I think that's a way to operationalize it so that the organization is prepared to consume it.
- On the one hand to get people into those slots, they need to develop with some support and project work to bring them into the culture of the company, but also rather than trying to retrain and drop into an operational role, work with the management to see what kind of commitment there is, and then apprentice people in through contract work or apprenticeship.
- Trying to approach something with "here's what we're going to do" and it's the one thing...are managers capable of managing someone who is very different from them? It's important to understand the whole experience. Sometimes we say it's all about college recruiting for diversity, but then 2 years in, they bail, because they feel like they don't fit into the org. Have to think about what we want to impact, and then think about it holistically, rather than having a laser focus.
- The business/studio needs to have the commitment but also some potential training and tools for these people as they come in.
- The biggest learning is not taking a silver bullet approach. How do we approach the challenge ahead rather than trying to solve the problem.
- Important to have support from the company side, and how do we move them through with the support of the organization> Would almost be a general process.
- Have to really understand the people we've brought in, make sure we have a support system for them.
- Retention is hard. In college age, you're not really hired for who you are but what you know. At college everyone knows the same thing.

- From an organizational standpoint, people feel like they are hired because they are diverse, and then we develop a retention problem. Something that helps people get the technical skills they need so they feel like they've earned it and feel like this is where they belong. But when we let them know they are a diverse candidate, then people feel like they were thrown a bone. It's a delicate balance of making sure the infrastructure is there, and making people feel valued for what they know.
- I think it's reinforced by both the day to day interactions with manager/team, and the hiring process. Management has to be involved in facilitating opportunities for people to grow. It would be great to have a program that focuses a demographic and really trains them to be high quality technically competent and not just sticking someone entry level in a team where there aren't more entry level hires.
- RCG - recent college graduate. We are hiring more of these, but we are really wanting to hire more experienced people. It took a year to fill a more experienced role with a diverse candidate.
- Maybe a certificate would be good to let employers know that someone is qualified in a particular area. Seems like there needs to be a training program before they jump in.
- As we've grown and matured, our lower level positions go away. We've needed more experienced people, don't hire level 1s anymore. We use Oakland as an incubator, and just implemented an Engineer in Training role - 2 people who did code bootcamps, internally, to keep on the two people to train them for 6 months at a reduced salary until they can prove they'll do the job. Not full fledged engineers but still people we knew, within our organization, to bridge the gap between what they were doing before and a full fledged engineer.
- Coder Camp as an example, have had people who want to do that, and it's a good experiment to see if they will work out as a source of candidates.
- If you're going to hire in a level 1 need to have clear expectations that they won't perform at a full level yet, and support.
- Coder camps are a way that we can bridge the diversity gap, because it's much less costly than to do a full education, Digipen etc. That's something we'll look at down the road more of.
- There are some people who have opted into tech without a commitment to keep their skills up to date. I believe that when you take a career in tech, you take on a commitment to be a lifelong learner, because it moves so fast. So what is the responsibility of the employer to keep their skills up to date? We provide tuition assistance, etc, but that requires employees to have foresight to what they need to remain relevant and go out and give their company their discretionary effort. What is the employer's responsibility to keep our employees trained and up to date?
- Are middle managers aware of the culture they create that makes it harder for diverse candidates to fit in?
- Example of continual learning through CEO at MSFT. He has established it as part of the culture, by example. The growth mindset and we bring that in in small

ways, like quotes on cups. It starts from the top down but then is reinforced everywhere. From a cultural perspective, it establishes this unwritten peer pressure around the growth mindset.

- What does good retention look like? As movement of talent becomes common and it's important to keep people in the industry?
  - Retention can be a blessing and a curse.
  - Culture is going to be your biggest retention mechanism. If you've had 3 years and it's been a good two way relationship and they leave for something else, then we support them. I'd rather not hire people who move every 1 - 2 years for salary reasons though.
  - How do we shift the retention of minorities to be an industry conversation and not just a company?
  - Example; women of wizards group, we hosted a women's play day for a pre-release of a card set, invited a group of women to come play. Tech ladies group kind of like geekgirl dinners, hosted that, had over 100 women show up in the game industry in Seattle. Doing that is a two-fold benefit of making our company aware to women in tech, and also supporting our diverse populations in the industry in partnership.

## Appendix D: Resources

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