The Future of 3D Printing:
Following the Same Path as Mobile Phones?
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As the Director of Recruitment at Apex, I closely follow trends in the IT industry to ensure we are prepared to help our contract employees and clients meet goals. I predict the next trend to take off is 3D printing for both business and personal use. If you have any doubts it is the "next big thing," take a minute to recall the progression of the smart phone and its impact on the world.

What do mobile phones and 3D printing have in common?

The rise of 3D printing is poised to follow the same path as the development of mobile phones. It appears the next talent boom will follow a similar path of competition, cost reduction, and the emergence of a safe and reliable ecosystem. In addition, consumer fascination will be driven by the hobbyist and entrepreneur before corporate giants are able to monetize its market value.

For many years, 3D technology has quietly evolved in the manufacturing industry. Although imperfect, it has allowed organizations the ability to create simple, scalable parts for various business sectors including medical, dental, automotive, and aerospace. The technology has been costly and the materials limited.

With the expiration of many proprietary patents in 2014, the market is starting to realize innovation, competition, and reduced cost in 3D hardware. Corporations are beginning to experience better three dimensional design, consolidated components, and low scale customizations. This shift is prompting business leaders and investors to ponder "what could this mean for the future of MY business?"

Analysts are also betting big on the current $2 billion industry. The dream of high volume, simplified manufacturing has a large economic appeal. The 3D hype has experts predicting a 20% - 30% annual growth through 2018. Unfortunately, as is often the case, today's expectations are travelling faster than the systems, software, and talent that support it. Without a similar 2G to 3G evolution, high-volume manufacturing will have to wait a little bit longer.

How will it help consumers?

Disrupting the traditional manufacturing industry is just the tip of the iceberg for 3D printing. Simultaneously, another capability is beginning to emerge – household 3D printing. The current printer cost is high ($1,200) and the software is BETA, but companies are already exploring the way home printing can help consumers customize their products:

- Automobiles: Consumers purchase their car at the dealer and upgrade some of the features at the time of purchase, such as wheels and seats. They can then log into the manufacturer's app store to download an aftermarket hood ornament, spoiler, and console that can be printed on a home printer.

- Clothing: Consumers buy new sneakers from a retail store as a blank canvas. They can then visit the company's website to purchase inexpensive stylings and colors that can be downloaded and used to customize the new shoes.

- Plastics: Consumers can easily replace products they have lost or broken, such as phone cases, vacuum cleaner parts, and contact lenses.

These ideas are not far off. The 3D hobbyist is already at work, learning the software, designing content, innovating, and building a marketplace. The 3D products are still simple but as the 3D ecosystem evolves, so too will the quality and demand of the product. Visit sites like Freshfiber.com, Sculpteo.com, or Shapeways.com for examples.

How will it help technical professionals?

Companies like 3D Systems and Microsoft recognize the importance of the ecosystem and are in need of IT professionals who can help develop the software to support it. They recognize the challenges that companies will have as patent laws and trademark infringement fears and complexity are reduced overtime. 3D products and marketplaces will become more established, creative, and open, while creating a simplified, consumer forum, similar to ITunes.

Since 3D printing will not be driven by the traditional corporate business model, talent will be sparse. Early corporate adopters will need to manufacture talent via internal R&D. As the talent demand increases, the recruiting effort will extend to the creative 3D hobbyist. This paradigm will be very similar to the mobile talent boom and will create a potential catalyst for emerging startups hoping to put their own products in the hands of the consumer.

For now, there's a blurred distinction between corporate need, personal use, and the hobbyist. Many are still confused by realm of 3D possibilities. The technology is still new, costly, and limited but the content is beginning to emerge. However, much like mobile, when the consumer starts to seek more, you'll see a demand similar to the Smartphone craze.

What does it all mean?

3D printing is big and will continue to grow. According to a report released by Forbes, the 3D printing industry is expected to grow to a $5.2 billion industry in 2020. 3D printing can have a big impact on the manufacturing, consumer industrials, healthcare, and transportation industries by producing machine parts, home goods, prosthetic limbs, and automobiles among countless other goods. The expiration of key patents in 2014 will reduce prices and make the technology more accessible. Case in point, Deloitte and 3D Systems, a leader in the 3D printing industry, have partnered to help business leaders integrate 3D printing technology into their current practices. Keep abreast of the trend to track how it will impact your career and the company where you work.

A Brief History of the Mobile Phone

1983 Motorola releases the first cellular phone, the DynaTAC 8000. It weighs almost 3 lbs., provides only ½ hour of conversation time and costs $4,000.

1990s Mobile phones became mainstream due to better cellular technology (2G), lower cost, and a longer battery life.

Mobile handset makers begin to rule the industry by keeping their trade secrets and development tucked away from competition. Mobile talent is scarce and skills are as proprietary as the hardware they support. Consumer demands for stronger products begins to push the boundaries of the industries' capability.

Early to mid 2000s The golden age of mobility takes flight as the industry recognizes the need to create a mobile ecosystem. The exposure of these mobile systems allows external developers the ability to create content, apps, and entertainment software across multiple systems, while handset makers reenergize the mobile capability (3G) and hardware. It creates a new consumer marketplace driven by both established and newly emerging businesses.

IT Resources
Demand for creativity, content, and talent grows as rapidly as the technology itself. ITunes, the App Store, and GooglePlay reduced the fear of security and patent risk, while simultaneously turning the talented mobile hobbyist into an entrepreneur. Mobile consumerism is driven by independent developers and startups, while the corporate giants struggle to identify or manufacture creative mobile talent.

Current Mobile talent leads the demand of skills most requested in the tech industry. The evolution of mobile continues forward with a new demand in cross platform technologies, more robust user experience, increased front end business logic (MVC), and better corporate capability. The technology has yet to reach its limitation and has created the perfect economic storm driven by both corporate possibilities and consumer demand.