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Thought Leader Interview with Henrik Bennetsen, Founder & CEO

Katalabs

with Stephen Waite, October 29, 2010

In this Thought Leader Interview, we sit down with Henrik Bennetsen, Founder & CEO of Katalabs. Henrik and his colleagues at Katalabs are part of a growing community of programmers that are embracing HTML5, WebGL and X3D to create a more immersive web that has the potential to usher in a significant wave of innovation and technology-driven *creative destruction*. Some of the key takeaways from our interview with Henrik include:

- Contrary to the September 2010 Wired magazine cover story, the web isn't dead. It is very much alive and evolving from a 2D, single-user to a 3D, multi-user technology.
- 3D, through visualization and multiuser experiences on the web, is likely to play a prominent role outside the game space as the web evolves. Katalabs can deliver rich, multi-user 3D environments through a modern web browser without the need for any additional plugins or downloads.
- 3D on the web could turn out to be very effective for real-time engagement in the enterprise.
- HTML5 has broad support in the browser community and is opening up new frontiers on the web. Through HTML5 we are seeing the web encroach on the operating system's traditional role of being the platform for applications.
- WebGL and X3D (through x3dom) are fostering creativity on the web. Once the WebGL spec hits 1.0, which is expected later this year, we are likely to see an acceleration of innovation on the web.

We hope you enjoy this interview with Henrik Bennetsen of Katalabs.

SW: Thanks for your time today, Henrik. It's great to be able to speak with you. Wired magazine recently pronounced the death of the web. Seems a little premature, doesn't it?

HB: I certainly think so. With everything that is going on around the rolling upgrade of the web that is HTML5, I would call the web alive and well. Connected native apps, video and other online technologies that live outside the web are certainly coming on strong as well, but this does not grab me as a zero sum proposition. But it was an eye grabbing headline for sure.

SW: Let's talk about one of your favorite subjects: the evolution from the web as a 2D, single-user experience to a 3D, multi-user experience. What are the main drivers of the evolution as you see them?

HB: It is really a subset of a larger trend where the web is growing beyond its origins as a document delivery mechanism into a fully-fledged application platform. This excites me, especially when I see new apps with a 'native to the web' feel. Things that could only happen because of the unique properties of the medium have a way of moving us forward in interesting ways.

As part of this large upgrade sweeping across the web, I think that 3D through visualization and multi-user experiences could finally play a prominent role outside the game space. Along with the HTML5 stuff, WebGL will enable app makers to deliver plugin-free 3D through modern web browsers. People working in this space have been aware of the need to lower access friction for years. Building the core capabilities into browsers so you could simply email someone a link to a 3D environment is likely to mean something interesting.

SW: There are some folks who are skeptical of 3D on the web. Do you understand their position?

HB: Yes I do. Let me just state that I am well aware that I am not the first to predict that 3D is about to become part of the fabric of mainstream online activity. I do remember VRML and spent a fair amount of time in Second Life. I think a lot of people are currently looking at open-ended 3D and are calling category failure on it. Somewhere between the technology change we are seeing and the social revolutions the web has triggered over the past 20 years, I think this has a real shot.

SW: We've heard a lot about HTML5. The guys at Apple seem to be bullish on its prospects. What is your view of HTML5?

HB: A big positive of HTML5 lies in the broad agreement around it. Browser makers Mozilla, Google, Apple, Opera and, even to some extent, Microsoft are implementing the new specs before they almost even settle. Some have complained that it is almost moving too fast, but for me I have to say I love that the web is really exciting again.

SW: WebGL is being integrated into many browsers. What are the advantages of WebGL over alternatives (e.g., X3D)?

HB: Getting different hardware and software configurations and access to 3D spaces has traditionally been such a hard thing to accomplish. Technologies that rely on plugins and client downloads continue to struggle with this. Actually I think that WebGL out of the gate may even be hard on some older pieces of hardware. But I think that the promise is there for something that will finally see broad enough adoption that everyone will have to figure out how to support it well.

The X3D community has provided leadership in the '3D on the web' space for years now. I don't think of them and WebGL as an either/or proposition. A case in point is the very exciting x3dom (<http://www.x3dom.org/>) project which includes declarative (X)3D content that will be rendered hardware accelerated (thanks to WebGL) without the need for using any plugin.

SW: All of the web browser developers are embracing WebGL today except Microsoft, or so it seems. In your view, who is out in front today in terms of web browser innovation and 3D integration?

HB: I am having a real hard time calling this one. There have been times where I have thought that Google's Chrome was out in front, but then Mozilla would come back in a strong way. Apple is traditionally more closed. But since Safari is based on the open source Webkit you can keep up with them, and things are really moving there as well.

SW: You've said that the web is becoming an operating system. Can you elaborate on that statement for us?

HB: Through HTML5, we are seeing the web encroach on the operating system's traditional role of being the platform for applications.

SW: It would seem that the migration to a 3D multi-user web has the potential to profoundly alter the social networking landscape as we know it today. What are your thoughts on this?

HB: The success of Zynga is hard to argue with and usage-time numbers from Facebook reveal that people are spending lots of time on the platform playing games. I am not sure that the landscape necessary will be altered as much as reinforced by the ability to add richer media to the equation. The current crop of games is largely asynchronous, and maybe 3D will serve to extend this with more real-time activity. I noticed that the recently improved Group feature on Facebook now allows for chatting with a bunch of people at once, which could also be a sign towards increased real-time engagement.

SW: How do you see a 3D, multi-user web evolving in the mobile space, which is increasingly applications-driven?

HB: The convergence between increasingly capable smartphones and our traditional computers only seems to be strengthening. Apple recently announced an app store for OSX and I have seen very impressive 3D graphics on my iPhone 4. I don't think that we should expect to see mobile space lag much in the area of multi-user 3D either. With traditional websites we have some adaptation to the

mobile screen size and multi-touch interaction. I am curious to see what an equivalent for 3D turns out to be.

SW: What kind of impact do you see a 3D, multi-user web having on the enterprise in the next 3-5 years?

HB: I think that 3D could turn out to be very effective for real-time engagement in the enterprise. If our digital toolset for conducting meetings strengthens, then you are likely to see an acceleration of the distributed workforce trend and the size of those addressable markets.

SW: How will 3D on the web be different for the individual company working in this space?

HB: Currently, most have to rent space on a 3rd party platform and send their users there. I think this coming paradigm will allow companies to extend their existing website with 3D capabilities. What we are working toward is allowing users to go to www.sirikata.com and basically download an open source multi-user 3D environment just like you currently can with blogging software at www.wordpress.org or a CMS from www.drupal.org.

I think this change is pretty profound. Current 3D products have very rough retention rates. A number I often hear floated is that 9 out of 10 people login to Second Life once and never come back. This is a tough problem for Linden Lab to solve. If you found the same to be true for your own website, you could experiment with A/B testing, use analytics aggressively, etc.

Basically we are looking at a wider pallet of opportunity for the sites we have spent the last decade or so building and improving. I think the practices are going to be very familiar to people involved in web development. But this will not be your mother's web by any means.

SW: What are some of the projects Katalabs is working on today?

HB: We are working on the open source Sirikata platform. At this point we are at a stage where we can deliver a rich, multi-user 3D environment through a modern web browser without the need for any additional plugins or downloads. This is pretty exciting for us. We have a range of projects that allows us to build out the core technology. Here are a few of our currently announced projects:

With the BE community (<http://www.thebecommunity.org/>) we are developing a new online 3D environment for young people fighting cancer to meet and learn together and from each other. Something of a dream for us to be able to use our technology interest for such a worthy cause.

We are working with a couple of exciting art museums. With the Danish Bornholm's Kunstmuseum (<http://bornholmskunstmuseum.dk/>) and the Arizona State University Art Museum (<http://asuartmuseum.asu.edu/>) we are building an online tool where visitors can curate their own galleries. Think “web 2.0 meets the traditional setting of the cultural institution.” We love projects like that. An early prototype of this is available from our website (<http://www.katalabs.com/>).

We also have an unannounced product that I would love to tell you about at a later time when we are ready. The basic goal is to make 3D objects easier to work with on the web, but I will have to leave it at that for now.

SW: Outside of Katalabs, what are some of the things you have seen done with WebGL that have impressed you?

HB: The main thrust I have observed in the WebGL community has been towards creating the tools that let us create. Third party libraries, almost all of them open source, have come forward at a surprising pace considering that we in many ways are very early on. It really makes you dream of amazing projects once the WebGL spec hits 1.0. This has been projected to happen towards the end of the 2010, so we are getting very close. I get this sense of a rumbling underground and am very excited to see what comes up in the months ahead.

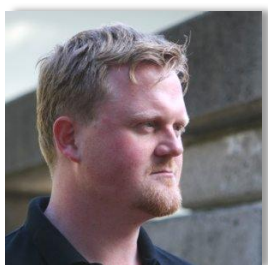
SW: One last question for you, Henrik. While at Stanford you worked with Second Life and know Linden Lab and its technology very well. Given your view of where the web is going, what is the future for Linden Lab and software like Second Life?

HB: There has been a bit of backlash against Second Life over the past years. There is a broad feeling that it did not deliver on the hype it saw a few years back. While this may to some extent be true, I think that as open-ended, multi-user 3D environments become mainstream we will look back at Second Life as being a very important step in getting us there. Don't forget that when Linden Lab launched Second Life, people called the idea of a 3D space built by its users crazy.

I think it remains to be seen whether Linden Lab can be a leader in the next paradigm as well. I am a big fan and want to see them do well. But I do think that the transition from walled garden to web application is one that is going to need to be skillfully navigated. My vision of HTML5 and WebGL is that we are looking into a very large space. There will be room for many companies to be successful, just like on the web we know today.

SW: Thanks again for your time today, Henrik. We enjoyed speaking with you and wish you and your colleagues at Katalabs all the best in the future.

About Henrik Bennetsen



As CEO of Katalabs, Henrik works in the realm of 3D collaborative spaces based on HTML5 technologies. Whilst working as an Associate at Stanford University's Humanities lab, he became involved in development of Sirkata, an open source platform for the deployment of games and virtual worlds. In a previous life, Henrik was a professional musician and still has a strong side interest in creative self expression augmented by technology. For more information about Katalabs, go to: <http://www.katalabs.com/>.

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