

Transcript of the conversation between Jerry Engel and John Hanke for The Innovative Organization program at UC Berkeley Executive Education.

Jerry Engel: Okay. So, this morning we've been talking about technology trends, we've been talking about innovation, we've been talking about how we manage our companies moving into a world of rapid pace change. We're really lucky today to be talking with John Hanke. John, you graduated from the High School Business, when?

John Hanke: I guess 20 years ago, I think it was in 1995.

Jerry Engel: You're making me feel very old.

John Hanke: Me too.

Jerry Engel: So, take us back to 1995, what were the trends, why were you coming to school, what were you doing here, because most men parted some trends in your personal life but also some macro trends in society.

John Hanke: I was -- it was a career transition for me. I grew up in -- at the dawn of the personal computer era, very passionate about programming back in the days of the Apple and Atari and TRS-80 but they didn't really seem like a legitimate career. In 1985, 1989, when I came out of College, so went to work for the government, I went to work for the State Department, moved to Washington DC, got a real job, served overseas, Southeast Asia and Burma, came back to DC -- having done -- pursued a career that wasn't fully my passion for few years. I wanted to try to get back to the technology and sort of figured that -- moving to the West Coast, game NBA was a way to start get established out here, and do that, that's what I was trying to do.

Jerry Engel: So were you a gamer back then?

John Hanke: I liked games, yeah, like anybody who messes around computers, I guess, who played games and I loved programming games, and yeah, I thought that kind of entertainment was interesting, and I had this aspiration for starting a company kind of based around that when I came out to the business school.

Jerry Engel: Did you ever think business school was a place to deploy an interest in gaming?

John Hanke: I don't know, I thought it -- they made sense to me. I knew something about computers and technology; I didn't know anything about business having worked in the government. So I just sort of figured I need to learn a bit about accounting and finance and marketing, and some of that stuff. To me, it was like establish your network on the West Coast, and learn some basic skills for how to do what you want to do.

Jerry Engel: Well, how did the work out for you?

John Hanke: Well, it was great. I was interested in that, kind of in doing a startup, it wasn't quite as common back then as it is obviously it is now, but there were no other classmates here that were interested in that. There was -- partners for entrepreneurial leadership, which was a student club, it was about entrepreneurship, so I got connected with people with that interest. One of my colleague, Steve Sellers, I know you know well, was in the process of starting this company to do a new kind of game, you were asking about trends, so there was only one trend whenever we were going through and that was the Internet, the Mosaic web browser and Netscape were in the process of coming into existence when we were here. It was still dial-up modem days, but it was earliest days of the Internet. So we were all trying to figure out how that would be relevant to the things we were interested in, and several companies got started by colleagues during the time that we were at school. So, yeah, Steve and I started the company, we sold it on the day that we graduated.

Jerry Engel: So there are some things back then that tied right to what you're doing now.

John Hanke: Well, I took its hiatus from games for a long time, but with the latest stuff that I've been working past three years took the work that they're doing in mapping and combine it with games, and now we're doing these real world Geo location oriented games.

Jerry Engel: So persistent time is still...

John Hanke: Yeah, we basically took the concept of an MMO type game where you

have millions of people all collectively participating in a massive game that goes on forever, and we took it out from the computer, and basically just broke it out into the real world. And so, it's very similar to the stuff that we were doing way back then.

Jerry Engel: So give us a little tour of the -- we're very interested in this process of spinning in and spinning out, open innovation, you've been through that world intensely right now for the last 10 years. What's been your experience? How did you get into geo-location stuff?

John Hanke: Well, I just sort of fell into it, we started and sold that company, then Steve and his brother and I started another company, that's where we actually ended up in the basement of the Bancroft Hotel, courtesy of the Osco. We sold that company and then after that I was kind of casting around for what to do next, and I met some engineers who had been working on satellite imagery visualization and so looking graphics, legendary Silicon Valley company, which is I guess no longer with us or barely so if it is.

Jerry Engel: It was Jim Clark's big win.

John Hanke: It was.

Jerry Engel: Jim Clark sort of a big enabler of Netscape and a lot of other things.

John Hanke: Yeah, when I was in business school, their silicon graphics will serve the Google Company.

Jerry Engel: Right. It was a big time story.

John Hanke: But, in any case, yeah, they had been working on visualizing large amounts of satellite imagery data, so the company that came out of that was Keyhole, and we basically set a very ambitious goal of creating this digital earth, it's crazily ambitious for a startup to try to do it, but we made a pretty good dent on it, and then after four years of building that, we were acquired by Google, and then given a lot more capital and resources to continue that vision, which grew into Google Earth, and Maps and Street View, and things like that.

Jerry Engel: So looking business model trends over that time, when you were a

standalone in Keyhole, what was your business model?

John Hanke: Our business model was about 15 years ahead of its time; it was software as a service. So we were one of the first people out there doing that, but we created this massive database of Earth information, the imagery map overlays, lots of different data sets, and we sold access to it on the monthly basis. Although we had originally started the company with the idea of that being a consumer company, where consumers would pay a little bit for the right to use it, the .com kind of crash happened shortly after we founded the company, and we pivoted to be a B2B focus company, so we were selling to engineering firms, briefs, real estate, land development companies, charging them on the order of hundreds, thousand dollars a user per month to access the system. But that's SAS, cloud model, is now every app I use for the new business is like based on that.

Jerry Engel: We were looking at the disaggregation of this SASification of the world these days, and so you were right on it then. So what was Google's interest?

John Hanke: Google's all about organizing the world's information and making it useful and you have texts and you can search text, and then you do that great with the algorithms that Larry and Sergey originally created, and that was kind of the original core competency of that company, but they were looking at all the other domains of data and ways to organize data, search for data, make data useful to people, so they had started the book scanning project and maps and looking at things on top of a map, and searching for things on top of the map, and all the data that is related to the earth in geography was this domain that they felt like Google would be important to them, they want to be good at. So they bought us, and poured a lot of capital into it.

Jerry Engel: So here you were running your own small company, if you will how many employees before the acquisition?

John Hanke: We were about 30 people.

Jerry Engel: How many people were you managing a year after the acquisition?

John Hanke: A year after maybe less 75 people.

Jerry Engel: Double in the size. Two years after?

John Hanke: I don't remember the in-betweens, I know when I left it was between 1,000 and 2,000 people.

Jerry Engel: Yeah, wow! What was that like, the transition?

John Hanke: Well, that was a post-doc business education I guess, sort of scaling up and everything was growing like crazy within Google at that time, teams were growing, our business was growing, we wanted to do things quickly, so it was a tremendous amount of fun, it was very, very rewarding.

Jerry Engel: So the focus has spun in with you if we want to call that acquisition spin in, did it work out for them?

John Hanke: Yeah, we had a great -- we are always pointed to within Google, as having on the best retention rates of acquisition. So that 1.75% of the people and this was after some number of years, I don't know five or six years and were still within Google and were doing well. Many have had great careers within Google, others eventually left Google like no one started his own venture capital firm, and we're able to use that experience with them, Google to springboard the rest of their career, so it worked up pretty well for us.

Jerry Engel: Fantastic. And of course, Google Earth and mapping in general such a huge part of what Google is to the world, it's made a real contribution to their success. So why leave them?

John Hanke: That's a good question. I came in as entrepreneur, my head, I got to see what it was like to be a Vice President in a large public company with large staff, lot of responsibilities, and I decided that the idea of going out and making new products was more interesting to me given a choice than continuing to run a large organization which has, as many of you know are coming from big companies, a lot of that is administrative, people management, which -- people management is fun to some degree, but when you get into HR reviews and a lot of it is just kind of helping people with their career, which I know is good, but it doesn't have a lot to do with the product innovation, which was the thing that originally interested me. So, I was at a point where I was lucky to be able to have a choice, it would have been a fine career to continue to do that, but I did have a choice for personal interests as well as logistics, so I was commuting from the East Bay down to

Mountain View, and I wanted to get out from under that commute and spend a little bit more time with my kids, created this new thing where I could do what I wanted to do, and do it close to the home.

Jerry Engel: So what is this new thing?

John Hanke: So, we started this group, we called it Niantic Labs. This was after having run geo and Google for about six years; we've got to do some interesting stuff there. At one point, we worked with Geo launcher satellite which was a highest resolution imaging satellite in the world at that time. We started Street View; we had hundreds of cars driving around the world, as well as bicycles and handheld imaging devices. We actually built a digital map of the world, which employed multiple thousands of contractors offshore, utilized all the satellite imagery and Street View imagery to basically create a map -- pretty much from the scratch, which is now the foundation for a lot of things at Google, for everything from ad targeting to the consumer mapping services that you use today. One of the most gratifying things we did there was to support disaster, so we would go in an image areas after there was -- the first one we did was the hurricane in New Orleans, where we will you go and photograph everything after the flooding, get that online, so that disaster response teams and people that were affected by that would have a resource to build on, so one of the very last projects that I did before rolling off at Geo as we acquired this plan specifically for that disaster response mission, most of our mapping aircraft fleet are actually turboprops, but we bought this jet, so that we could get there quickly and image areas quickly, modified it including cutting a giant hole in the fuselage to mount the special camera system that we utilized inside our Google.

So, that was the end of my Geo career, went from Silicon Valley to biking and taking a variant to San Francisco, which was great -- kind of personal benefit of making this jump and started Niantic Labs. So that journey has just reached a point where we just spun out of Google, which I guess we'll talk about them and some mechanics around that. We started that with the idea of investigating this idea of ubiquitous computing, computing interfaces to everything that you encounter in the physical world, was kind of the concept. We saw computing breaking out from the desktop, smart phones, had obviously become pretty big, that goes to that point that we were looking at, what is the significance of that, what new opportunities are created by that, we named the group, it's kind of a weird name, Niantic, it's actually a town in Connecticut, it's a whaling town, they used to build ships, one of those ships were

sold to San Francisco during the gold rush. The story is that, during the gold rush, everybody was coming to San Francisco and nobody wanted to leave San Francisco, because everybody wanted to get rich mining gold, so their ships piled up in the harbor, they didn't have any wood to build hotels or stores or anything else with, so they actually dragged these ships on shore, and used them for buildings, and the Niantic was one of those ships, it was a hotel, a bar, a brothel, and these ships ultimately got buried in downtown San Francisco by the sediments and the skyscrapers were built on top of them.

So the Niantic is actually buried about a block from the Transamerica building. It was interesting story, but the idea was that there's this hidden information out in the world than electronic devices, ubiquitous computing, augmented reality, and those kinds of technologies could help you learn about these things, as you're out moving around in the physical world. Trends that were happening at the time that we started Niantic, wearable computing was really just kind of coming onto the scene, so we were thinking about what's the post cell phone world look like, what kinds of devices are people going to use, what kinds of services would be enabled by these new kinds of hardware. We were also interested being an advertising company. If you have mobile computing and services that people using while they're moving around in the world, being a mapping person, the question that we asked ourselves was, could these services influence how people behave in the physical world, could the products that they're using cause them to walk a different path, drive a different path, divert from the trajectory that they're normally going to go on. If you could do that through information services that you're offering to people, there's tremendous opportunity there for businesses that might want to change the behavior of people, to get them to go places they wouldn't otherwise go.

That was kind of one the basic concepts that we wanted to investigate. So we launched a product called Field Trip, it's about information discovery, we ultimately incorporated over 300 publishing partners into that, basically like the story about the Niantic ship, it surfaces information about the world as you're out moving around, so it could be history, it could be information about bar, shopping that kind of stuff, art, architecture, basically just tells you about stuff that's around you. Some of the folks that we signed on to basically funnel content to that, and we're predicting the future, we're looking at trends, Google Glass was coming, we're so stoked about Google Glass, we launched on Google Glass, and we all know how that went. So you can always predict these things, I guess, yeah, maybe that's the trend lesson, you have the fundamental trend may be valid, but they're going to be fits

and starts along the way, maybe that was one of them. The second product that we focused on was going back to my gaming roots, but combining this idea of location influencing know where people go, I have young kids, they were into computer games and one of the things that I was struggling with was screen time, yeah, you left computer games, but can you get your kids to go outside and play, and why can't you, why can't you build a gaming experience that takes place outside that uses mobile phones or mobile technology.

So we put our heads together, we worked on prototypes, I hired some people from Sony, Disney, Electronic Arts, and we started thinking about can we build a game that takes place in the real, and we actually built paper prototypes, tried various combinations of rules and explored ideas that ultimately turned into this game called Ingress, which I don't know if you have tried, I hope you will, it's fun to play, a bunch of people play right here on the UC Berkeley campus along with 13 million people all around the world who play this game. It's all one giant game where two factions are basically competing with each other to control the world, you can play it by yourself, you can just kind of walkthrough campus, you can hack some portals, which will be kind of interesting statues or historic buildings around campus, it can be a very solo kind of thing, which is just take a walk, it's a little bit of kind of gamify distraction, but whenever you get involved in the team aspect of the game, it feels a lot more like if any of you ever played Risk -- with your kids or when you were a kid, where you got of bunch of people around the table, and you're all strategizing about how to take over North America, or really break into Australia or whatever, there's this collaboration and strategy planning that ended up being the core of the game, so this whole social network grew up around Ingress that we didn't expect.

There was a data aspect to it as well, where people were identifying the places in their cities and communities around the world, that were kind of the nodes on the game board that people will be fighting over, we told them to find historical spots, interesting local businesses, basically cool places in the community that would be fun for people to discover while they're playing the game, and people done that, have millions of these locations been submitted by users now part of this global Game board. So that was the hypothesis, we put the game out in the market, and somewhat to our surprise, I guess, it worked, it worked better than we initially anticipated, and people have done crazy things, motivated by just the pixels on the screen, this little game. People have chartered helicopters to go off and capture portals, flown airplanes to remote corners of the globe, people play while they're pushing their babies to the park, there people that have -- disabled folks have made

custom wheelchairs and they go out and play the game, so it's really been great to see people get up and be physically active motivated by a video game.

We've been successful in reaching families playing together; couples playing together, really kind of a wholesome fun take on what a videogame can be. People meet through the game, so in the MMO game that I was referring to like World of Warcraft, people meet but it's like your avatar meets somebody else's avatar, you don't really know what that person is or about them really, and those were kind of fake relationships, but in Ingress we took the dynamic and put it into the real world, so people are meeting that your meeting the real person, and you're forming a real friendship, and we've had many dating relationships and made several marriages at this point that have come from people who have met through the game, this is the game board and a client where -- the guy made this red diamond ring by connecting portals together, that was his way of proposing to his wife. Now we've actually had the first crop of babies from the couples that have met through the game. One of them named their baby after one of the fictional characters in the game, which was kind of frightening.

Senior Resistance by the game, this one was 82 years old when I met her, she is now walked over a thousand kilometers playing the game, she had a hip problem and she had diabetes that were both troubling her when she started playing, her kids introduced her to it, the diabetes is under control and she's met all these young people, so she's like grandma, she's actually called Agent Nana, and she hangs out with always these hipsters up in Seattle playing Ingress, so it's pretty cool.

People will get out, they walk, and it was way. We didn't really think about it as a fitness product but has that aspect is very attractive to lot of people. People climbing mountains, people renting, chartering airplanes to fly to remote airports in Alaska during snowstorms to capture portals on behalf of their team, people getting tattoos of the game logos, when we first started seeing these it's kind of freaky. I met a woman who was playing the game, and she said, I've got something I want to show you, and I was like, okay, thinking of my wife and my kids and I don't know what's going, and she pulls back her wrist and she shows me this Ingress tattoo on her arm, first time I saw that it was quite shocking, but now there have been dozens of these people really get into the game, it's a life-changing experience for a lot of people, they're getting outside and meeting people. A lot of people are stuck in their apartments and houses watching TV without any meaningful social connections to people around them, it's a real social problem, and we're kind of on

getting at that through gaming.

So, yeah, the game is kind of expanded, we do books, comic books, we do a biweekly YouTube show, the players started getting together unplanned unexpected by us. These meet-ups became the heart and soul of the game, they got bigger and bigger all around the world literally on every continent -- went from a few dozen people getting together to hundreds or thousands, this is 3,000 plus people in Munich, then that went to 5,000 people in Tokyo, and then that went to 7,500 – 6,500 to 7,000 people in Kyoto. So it's a game you can play it by yourself but we have these big events and it's kind of like Comic Con meets a 5K, because it's -- people are coming, got the gamer aspect to it, but it's about walking through the city, it's a little bit of our historical walking tour as you're walking through interesting parts of a city. So these events have proven quite popular, so we continue to host some all around the world. We're doing one in New Orleans in a couple weeks and there are sister events and -- there is one in Okinawa, Japan, and there is one in Taiwan, and there is one in Homburg, and there is one in Milan coming up.

The game got really popular in Japan; it kind of took off and became even more popular in Japan than in the US and other countries, we won a bunch of awards over there. We just recently won, I think there's thing called Tokyo Game Show, which is E3 in the US, Tokyo Game Show is a huge deal in Japan, we won the game designer grand prize there, it's won two grand prizes that's awarded by people in the gaming industry actually. So definitely got noticed in Japan, so that kind of took us through the period of kind of growing this inside of Google, we reached the end and we're going to charter as a startup within Google, and we had to make a decision about are we going to fold this into some other product area, and try to make it fit into one of the organizational arms of the company or do we spin it out. I chose the latter, it probably could've made it work either way, but spinning it out seemed like a more interesting path for me as a former entrepreneur -- that seemed like fun.

John Hanke: So we started this spin out process earlier this year, It was supposed to take three months it took seven months, we basically looked at everything that we had learned over the three to three and half years that we've been doing this inside at Google, and created a business plan around the stuff that worked, and discarded the stuff that didn't work. So focused on this notion of immersive real-world gaming, that's what we're about creating these great outdoor play experiences powered by technology, as it turns out, gaming is a huge market and a growing market \$70 billion, \$80 billion headed towards the \$100 billion dollars. It's

also one where there's market disruption going on, the traditional gaming console which used to sort of own everybody's living room, a lot of that money has now moved to mobile like tens of billions of dollars, and that continues to flow from the traditionally game industry to the mobile world, and then people are looking at -- even evolution beyond the mobile phone and tablet, you've got VR in AR kind of is the next major set of technologies that are coming. A lot of people are very excited about VR, the Oculus Facebook \$2 billion, Sony's got a version of that, for me, the future of VR is not as exciting, I'm sure it will work for some people, I'm sure it will be popular with some people that the idea of our kids and large section of the population locked up inside the room with the headset covering up, the rest of the world isolated in having this electronic experience, I don't know, I think this is kind of scary.

So we're kind of the counterweight to that, we're saying no, rip off the headset, don't stay inside, go outside and play. We think that's an even bigger market, other people agree with us, people are trying to figure out which one's going to win, trends, VR, AR, which is the real deal. I think it's AR; Microsoft's made a huge bet on that, Google's made a huge bet on it in the form of Magic Leap, \$500 million investment so we're the software for that future, and that's the investment thesis for the company.

Through the success of Ingress and our popularity in Japan, we came into contact with other Pokémon Company, very familiar Pokémon, if any of you have kids; I know you're familiar with Pokémon. Mr. Ishihara, CEO of that company, very interesting company, they licensed the Pokémon IP to all things like trading cards, stuffed animals, video games, industry shows, big gamer he started out in the game making industry, he became a fan of Ingress, they were the first company we thought of and we thought about what comes after that, how do you take this geeky somewhat niche experience and take it out to a bigger audience we thought, what games would be a close fit. If you know anything about Pokémon, it's about these kinds who grew out into the force and they capture wild Pokémon that are out roaming through the world. So, wow, we could do that with our game platform. So we pitched that idea to them, they were very excited about it, and it started this dialogue that just recently kind of culminated in the announcement of the Pokémon Go project where we're taking the Ingress gaming platform, billing a Pokémon game on top of it, we announced it in September, we're going to launch it next year.

Nintendo is helping us, they're actually building a hardware device, so going back to

trends -- remember the initial slide I showed you about our interest in wearables -- there is a fit that device on their, there were some up band, now we have Nintendo making a custom wearable device that you use with your phone that work to play the game. So you can use it the place, you don't have to go around looking at yourself when you play the game or a parent can give it to a kid, so you've got you running errands like me on weekend with kids in the backseat, they're kind of restless or whatever, they can have the Pokémon GO device when you pass through a Pokémon if you're at shopping mall or wherever, the device starts vibrating, it starts splashing and you're --the kid can capture Pokémon by pressing the button in certain sequence, then you can open that up on tablet or smartphone, later you can see the Pokémon that you captured. You can fight the Pokémon, you can control territory, there's depths to the game play, but the basic idea is going out in the real world, going for a walk in the park, or the zero or wherever and capturing this digital Pokémon.

And that's -- at the announcement, it was those huge find for me as lifelong gamer, because I got to announce it with Mr. Ishihara, who is CEO of Pokémon, this is Mr. Masuda, on the right over here, he was one of the original programmers on Pokémon, he's been working on the game for over 20 years, so he's a real gaming legend in Japan, and on the left side of the screen, is Mr. Miyamoto, who is probably one of the most famous game creators in the world, he designed Mario and Zelda and all those like super famous, super popular Nintendo games, so he's been a big supporter of the project as well. So, yeah, spin out's done, seven months of my life, finally October 19, basically that was announced to the world in teeing it up for discussion and were kind of a couple of things here, you know, what was it like trying to do a start up inside of a company, this idea of entrepreneurship, lots of advantages to that, inside of Google we have this infrastructure offices around the world, great talents so we could assemble the team very easily, real estate, IT, legal accounting, all those functions were available to us, we didn't have to go out and try to create those ourselves, so we could focus on just the product. Obviously being part of a parent company like Google has a tremendous advantage when you're trying to introduce a new product and there were synergies with other parts of Google, the other teams that we could leverage what they were doing, on the other hand, there were number of cons over a longer-term. The parent company brand and the parent company strategy ended up being a real challenge, because we didn't always fit with how Google wanted to find its brand, and it became difficult for us, do we want to make a PR announcement in a certain way, do we want to position our group within Google in a certain way, that isn't that Google's

overarching kind of brand strategy for that quarter, what the PR team wants to emphasize for the overall company, then a little bit of a mismatch, so that ended up being a struggle over time.

Also as a large and very successful company, you can imagine that Google has tremendous amount of legal frameworks and in fact regulatory compliance it has to do, there were number of consent decrees at this point in terms of how we have to do things in different countries around the world, it's very complicated landscape to launch an innovative new product in, a lot of concern about privacy in Google, just because of the breadth of the company and everything that it does. We're doing a game that involves location and people out moving around in the world, that location is reported back to a server, how do we handle that information, what kind of disclosures do we make, that's a tough thing to tackle on your own, but to add on the layer of scrutiny that Google gets on top of that made it even more challenging, and then there's a whole bunch of internal processes inside of Google at this point to make sure the teams comply with all of the policies of the company, so we don't get the company trouble, but then end up being a little bit cumbersome for us, trying to move quickly like a startup and it have to go through all the review processes that are necessary to keep Google out of trouble.

This idea of your independence versus integration into the rest of the company, we founded over time our interests and our focus were diverging from the interests of the core part of the company, so the synergies weren't as great as maybe we initially anticipated, and it either added to the luster of doing this spin out. The things that I've been wrestling with for the past seven months, IP ownership, you develop IP within a large company what gets transitioned out, what licenses back are made to the company, what rights does the company have, how does that trade-off against investor interests, very complicated thing to unravel even though we have sort of anticipated we might spin it out someday when we push and you start writing up those agreements, it gets very complicated very quickly. The teen people are leaving Google, how does Google feel about that, how do the individuals feel about that, what if not everybody wants to go, what if your critical people don't want to go, how many people are necessary to make this spin out viable, and how do you get that kind of core together, very interesting process, so I ended up spinning out of the company with some incredibly talented folks, some people that I really wanted to be part of the team chose to stay in Google, why not, great company to work for, tremendous compensation, that was a real struggle to kind of get through. The whole idea of ownership what is the parent company on, how do

you incentivize the team, how much does the team own, how do you get enough equity to new investors to incentivize them, there is this one pie, got to slice it up, very interesting slicing there, and to go out and solicit the investors, I went out pitched all my VCs, Nintendo ended up being our -- Nintendo and the Pokémon Company ended up being early investor, we pitched strategics as well, we ended up with a lot of interest in VCs, but a little bit of a mismatch in terms of where we are coming out valuation wise and where the VCs were kind of used to investing in startup set and the corporate ended up being the better choice for us.

A long and interesting process to go out and pitch a spin out to venture investors and what does that mean, what are they getting for their money, how do you value it, I learned a lot about that process through that. And in the whole post spin governance, who runs the company, what control does the parent company have in addition to the normal kind of Governance issue that you have between investors and management, so those are all things that we worked through I think successfully at this point and we're off and running.