

Distributed Agile Teams are FASTER THAN A SPEEDING BULLET!

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Abstract

Are distributed teams more powerful than a locomotive? Maybe.

Are distributed teams able to leap buildings in a single bound? Well.....

Can Agile development work with a distributed team? Given that the Agile Manifesto calls for “Individuals and interactions over processes and tools” does having remote workers doom a team to reverting to non-Agile methodologies? It’s a business reality that staff won’t necessarily be co-located which can make adopting Agile more challenging due to a lack of face-to-face interaction and often high latency communication channels.

This potential hindrance can be turned into a strategic advantage when applied to an Agile team. How do you leverage those resources in staggered time zones to extend the work day, productivity and improve development cycle time? What tools and techniques help remote workers stay connected to their team? How can cultural and geographic diversity provide a uniquely satisfying work experience for all team members? This paper provides a case study of how a team effectively navigated the challenges of a distributed Agile team.

Biography

Aaron Akzin is a Senior Quality Assurance Analyst at WebMD with over 13 years’ experience in technology primarily in a testing engineer role and mostly in health care organizations.

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1 Introduction

Many organizations have made the successful transition from Waterfall or no methodology to Agile development and life cycles. It has paid dividends for many while proven to be a struggle with limited success for others. There are 12 principles of Agile development that are outlined on the official website (<http://agilemanifesto.org/principles.html>).

One of these 12 principles is the following:

"The most efficient and effective method of conveying information to and within a development team is face-to-face conversation."

We all recognize this as being an ideal scenario. Unfortunately, there is very little guarantee that proximity will be our work environment with our co-workers. In fact, it's quite common at large organizations that resources and team mates are geographically diverse and often are in different time zones. Quite frequently they even have language barriers (as well as cultural) differences to surmount. In addition, talented staff may move for personal reasons to other locations. Often, organizations wish to retain their knowledge in-house and take steps to accommodate geographic diversity while still maintaining their Agile techniques and not revert to Waterfall or worse yet, no methodology at all.

Despite this principle there are advantages to a geographically diverse work staff. First, time zones can work to your advantage as an organization if leveraged properly. It is quite possible to dramatically increase your productivity and increase the number of cycles you can achieve in a 24 hour period versus a normal business day. At WebMD Health Services, we have two off-shore partners that we partner with that help us achieve these aspirations. It has been our experience that the distributed nature of our staff has often increased our throughput and velocity and is the rationale behind the title of this paper.

One off-shore partner is primarily dedicated to testing and located in India. The time zones are such that their night is our day and vice versa. There is a small amount of overlap due to the efforts of the off-shore partner slightly shifting their schedule to permit some degree of simultaneous communication. During this window both staffs are available to share results from testing as well as inquire about uncertainties or even used as opportunities for learning and dissemination of knowledge.

Personally, I had an opportunity to benefit from this time zone difference many times in the role I currently hold. One of our products required a database build every 2 weeks with updates to a provider directory used by consumers. Our ambitions were to move to a 1 week cycle and still feel confident on the integrity of our build without sacrificing testing cycles. There wasn't a tremendous opportunity for automation initially. Our partners in India didn't have much knowledge of this product line. Time was allocated to train the staff over a period of a few days at the beginning of our day and conclusion of theirs. Then, thorough test plans with explicit steps were authored so remote staff was able to execute precisely what was needed. In a very short period of time, what evolved was a complete cycle of work. The database build would be completed in the late evening of our business day and be ready for verification at the beginning of their day. Testing results and a corresponding matrix were recorded at the onset in an Excel spreadsheet. Eventually this evolved into more real time tools such as Google docs/spreadsheets and wiki pages which gave more opportunity for version control and multi-user capabilities.

An additional off-shore partner is tightly embedded into our entire Agile strategy. This partner is based in Argentina and the amount of hours where there is overlap between them and the United States employees is much greater and increased by a willingness on the part of that partner to slightly shift schedules, as well. Engineers in Argentina are both Quality Assurance as well as Developers. They are fully functioning engineers as productive and counted upon as a valuable resource as those based in the United States. They are interspersed in all our small teams and participate in our daily stand-ups. In addition, they are involved with committee meetings that help us to achieve our corporate goals. I have had the opportunity to meet many of the engineers that are based in Argentina at the onset of working with them. I will provide more details on why this opportunity to meet in person is ideal and in many ways necessary towards achieving a bond with your teammates.

Lastly, there are members of the WebMD Health Services staff that are engineers that work remotely and only take periodic and intermittent trips to our division office in Portland, OR. For example, our Chief Architect resides in Northern California and makes very frequent trips to the office. Another member of the Technology department resides in Nova Scotia, Canada and while his trips are more infrequent given the distance and expense he still makes the pilgrimage to the home base on a scheduled basis.

In fact, I am a remote employee that resides in Orange County, California and approximately on a quarterly basis makes the trip to Portland, OR. Candidly, this geographic status I enjoy drove me to author this paper and become an advocate for how it can fit into and even add value to the Agile model your organization adopts. It happened through an unusual set of circumstances that I didn't anticipate, however, deeply love and cherish this benefit. I feel connected to my co-workers that I work with even though I don't sit near them each day. I see them; I hear them and communicate with them frequently. I don't consider myself isolated in any way. On occasion, I jest about the "Island of QA in Orange County" staffed by myself and "Wilson my volleyball companion", it isn't accurate, whatsoever. Part of this is through nominal efforts on the part of WebMD Health Services to put in place simple tools to allow for better communication and invest in low cost towards travel and technology. It is my personal belief that many people would feel greater satisfaction with their job and work life balance if they also enjoyed the ability to work without a commute and the associated time and cost with that normal effort. Flexibility retains employees and talent as much and if not more than increasing salary. It is certainly worth investigating and formulating a strategy on how to permit distributed staff and still maintain an agile work flow and life cycle.

2 Strategies for Communication

The most important strategy for any team, whether they be co-located or geographically diverse is frequent and easy communication. Below are a number of strategies to and techniques for communicating and ordered in the way that has the greatest probability to achieve a bond among team mates. The easiest route to failure is a team that doesn't enjoy working with each other and lack of familiarity leads to distrust.

2.1 Meeting in Person

Despite the plethora of technologies that exist to communicate with others via email, IM, VOIP and other techniques as noted above there is still a strong incentive to congregate as a team at the onset of working together and periodically after that to maintain a sense of community. I work remotely for WebMD Health Services and my trips to the office to be around my team generally occur on a quarterly basis. On these trips, there is always some effort to have some sort of team building event. I'm going to provide a few examples below of some of the events and activities that have occurred in the past.

One of our more physical events was an off-site activity at a place called Tree-2-Tree (<http://www.treetotreeadventurepark.com/>). There were two portions to the team building event. First, the team participated in a number of activities that are pretty standard. The first half of the day involved working with one another to figure out a somewhat daunting task or relying upon team mates in order to achieve a goal that the staff of Tree-2-Tree gave to you. For a person afraid of heights such as myself it wasn't an entirely exhilarating day (on the contrary, quite frightening at moments), yet it was still a wonderful experience to get off-site and bond with your co-workers in some sort of physical event.

Music has an extraordinary effect on us as human beings. In a work context, it can bond us with each other. In the course of my working with my Distributed Agile team I have sung Bohemian Rhapsody in Karaoke with Argentinians. We have all played Rock Band together. We have memories of each other and enjoying each other's company in a social setting. If you don't have that as the foundation of your team whether they are co-located or distributed it is much harder to achieve a cohesive and well-functioning team.

The most critical part of congregating teams is to have a memory that they can take with them when they return to their various geographical locations. The shared memories lend themselves to cohesion and friendship and one that management should really budget for when bringing in new players or instantiating a new group.

2.2 Social Networking

One of the most important aspects of keeping a cohesive team that enjoys interacting with one another is socialization. At WebMD Health Services, our ambition with one of our off-shore partners from the onset was tightly embedding their engineers into our teams. As noted earlier, they participate in the daily stand-ups as does everyone.

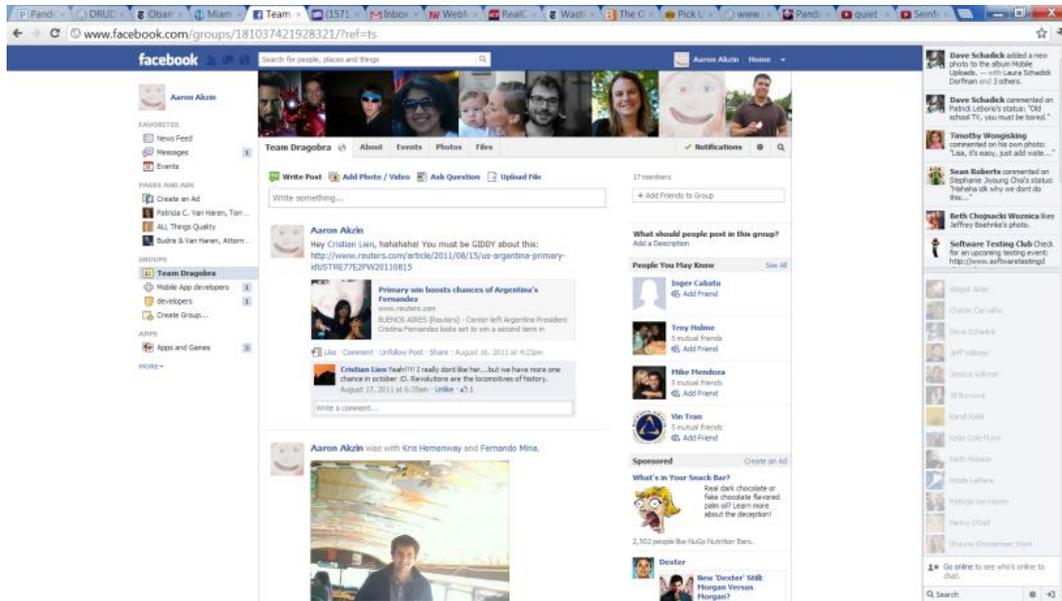
Facebook is an example of a site that presents a wonderful opportunity to personalize yourself to your co-workers in a way where you might not otherwise get that opportunity. Social networking sites like this or Twitter and Tumblr are so common to people regardless of what country they live in that there is an eagerness to utilize this modern form of becoming a “pen pal” to correspond or share with far away people.

In early 2011 WebMD Health Services adjusted the team allocation as we frequently do in our constantly evolving process to improve our organization. Previously, the engineering staff based in Argentina that is so embedded in our Agile methodology was interspersed in each team. At this point in our evolution of using these resources, it wasn't the right moment to structure ourselves in that way. Unfortunately, it made teams less productive since each team needed to spend additional time training and acclimating remote resources to the complexity of our work. Also there are restrictions that are specific to our business line where we are not able to have off-shore resources working on all aspects of what we are doing.

As an alternative to this original structure we congregated all the Argentinian staff onto a single team and provided a ratio whereby there was at least one US based resource for each foreign engineer. The rationale was to provide more dedicated and available resources to be readily available to foreign based staff while they acquired a pocket and library of knowledge in that part of the world. After that ambition had been achieved these resources would be redeployed and interspersed to the other teams as had existed before. It was just recognized the inevitable decrease in productivity as you train new staff to learn to do complex work.

I was recruited for this team and assigned an Argentinian engineer that I was to partner with and reach out frequently to throughout the day. After communicating with him in email, IM and Skype I realized what we were missing in our attempts at integration of this off-shore staffing. There wasn't a socialization aspect that had really been recognized much less any attempts to bridge this chasm. There is an inevitable aspect of socialization that is necessary to achieve a cohesive team that works with each other and very importantly, enjoys it.

At that time I was quite interested in Facebook for a myriad of reasons. First, I was fascinated by the technology and the number of simultaneous world-wide users all on this platform at every moment of the day. Second, it was the new “thing” in the world of technology and was monopolizing all the buzz, interest, career opportunities and investment for some period of time. Third, I found it a wonderful outlet for socialization myself while I was working throughout the day and off-hours when I wanted to reach out to my peers. I realized it was a readily available and free opportunity to break down some gaps that had occurred in bonding team mates. Thus I started a Team Group and invited all members of the group into this Facebook “party” and requested they all take photos of their respective offices so we could have some vision of the work space that each party enjoyed.



At that moment I was the only employee of the branch office Orange County and took photos of my townhouse. My son was photographed as the “facilities manager and maintenance supervisor” while my daughter was crowned with the title of “office manager and receptionist.” A photo was taken of my “executive” view and washroom. It was a Saturday afternoon attempt at humor that was well received by my colleagues in Argentina that were eager to reach out and bond with their American based team mates. In return they saw these photos and on Monday returned the favor by photographing their own office space which included their Yoda mosaic mural, bean bag chairs and Wii console area for ad hoc tennis tournaments. Shortly after this was done we had the opportunity to meet in Portland for a week and the sparks of friendship had already been achieved.

What was significant about this development is we had an opportunity to see the environment in which our peers worked lending a greater understanding as to how they worked as we did and where it differed. Also, it provided an opportunity for conversation in daily stand-ups to inquire and follow-up about some photo or event we might have seen our team mates share on their profile or within our Team Group.

2.3 VOIP

Voice Over Internet Protocol is an acronym that in many ways has changed our lives and dramatically lowered the cost of operating your business, particularly when resources are international. If you haven’t experienced this yet, you are missing out on a wonderful application of the internet, calling others through your computer instead of by phone at very low or no cost. Skype is generally our method of speaking with staff that is international. However, Microsoft Lync is often used in this same capacity as it has been adopted as our corporate solution.

In addition to the lower cost of VOIP for businesses, I have recognized a higher quality in terms of sound and audio in hearing. This becomes quite important when you are calling into a meeting throughout the day. At WebMD Health Services, many of the conference rooms have a ceiling that is quite high or even open given the office space that is occupied. I have found that in meetings where VOIP is used instead of a traditional phone, I don’t find myself struggling to hear as much of what is being said. Despite this increased quality and clarity, there are still “quiet talkers” (http://www.youtube.com/watch?v=1_3UmqEAh8c) where even if you were on the other side of the room there would be some difficulty hearing all speakers. This can be particularly frustrating as a remote employee and on occasion I have communicated with a trusted team mate that was present at the

meeting via IM after the meeting has concluded to reiterate certain components of what was communicated that I may have missed.

An important investment organizations need to undertake and provide for employees is a quality headset that facilitates speaking. I purchased a wonderful Logitech headset that I use to listen to music on Pandora.com throughout the day as well as benefitting from it for collaborating with my peers and participating in meetings. The cost of this headset was nominal, only \$60 and among our team of 10 can be achieved quite easily, financially.

2.4 Screen Sharing Tools

As time has gone on, there are more and more methods to share your screen and work interactively with a remote resource. When I first started in technology in the mid-90s this was a luxury and almost always facilitated better communication while mitigating a lack of comprehension of what one person was seeing while the other wasn't. Back then, we would often settle for screen shots and annotations with recreation steps. However, that was often lacking an important piece of information that was necessary in order to properly capture the sequence of steps required to recreate a problem or disseminate knowledge.

Many tools we use daily have screen sharing functionality built into the product. Skype and Microsoft Lync are two wonderful examples where you are already engaged in an IM conversation or even VOIP and taking the additional step to share your screen is free and easy. The screen sharing technology has become so ubiquitous that popular sites such as join.me offer this exclusively for free with the hope of upselling you to richer functionality after they have hooked you on this benefit.

2.5 Streaming Video and Webcam

The Agile team I work with every day does our daily stand-up with Skype for VOIP and GotoMeeting for video. It is useful and humanizing to have the streaming video as part of this conversation. An important aspect of maintaining good relations for the team is a level of personalization that is more easily accomplished when all resources are in the same geographic location. Although, I think all have had an experience where we may wish that some resources weren't so close....

There is not necessarily an added business value by being able to see your co-workers as part of your daily interactions with them. As a remote resource I am able to function perfectly well without seeing my co-workers for months at a time. Still, as a human being I value and appreciate being able to see them each day. Since we are all human beings, of course, then there is a business value as it eases my comfort and familiarity with my distant co-workers. For example, seeing the clothing your co-workers wear and how it might differ from you gives you the opportunity to appreciate the respective locations you may all be in and fully comprehend the heterogeneous nature of your peers. I reside in Southern California and quite frankly forego socks for many months of the year and certainly long sleeves. In comparison, the majority of my team mates reside in Portland, OR where the weather is much wetter than it is for me. Often we will tease one another about our climates where I may not see rain for months at a time and they go almost daily with some sort of moisture. The disparity in our weather becomes even more apparent when it involves the engineering staff in Argentina that is below the equator so their seasons are the reverse of ours.

Every morning I see a streaming video such as this (GotoMeeting screen shot below) where each team member does their daily stand-up. There are four engineers in Argentina, 3 in an office together and another that works in her home hundreds of miles away. There is myself based in Orange County, the branch office of Team Cobra as I joke to myself and my co-workers. Then the remainder of the staff on my team is located in Portland, OR where they gather in a room equipped with a webcam, microphone and computer where we can provide our update as well as scrutinize our electronic Kanban together.



2.6 Instant Messaging

Instant Messaging was initially a social mechanism for people to interact rapidly entirely in the context of our personal lives. There were no ambitions that it would be applied to business avenues. Instead it was adopted by many who used it in their personal lives and desired the same rapidness in their work that they were able to achieve in their personal lives. In fact as time has passed, corporations have purchased rather expensive corporate enterprise solutions to permit and facilitate Instant Messaging among employees. For those of us that recall how hostile many employers were to the concept of Instant Messaging it is extremely ironic.

On a given day I communicate with my co-workers through many IM technologies. I may vacillate between Microsoft Lync, Skype IM, GTalk, AIM, Windows Live or Yahoo Messenger. The only problem becomes when staff uses different IM tools, although solutions exist that bridge these Instant Messaging clients such as Pidgin. I would say IM is my primary method of communication followed closely by email. In addition to the obvious advantages of speed in IM, there is a certain amount of informality that lends itself to that venue and can help achieve familiarity and friendliness among team mates that don't get the opportunity to visit each other in person on a daily basis.

2.7 Email

Electronic mail is a method of communication that is so ubiquitous now it may hardly seem worth noting as a fabulous forum for communication. The value of having communication you can easily store and retrieve and add additional resources for input and collaboration is well known. However, in the context of Distributed Agile teams, often you have non-native English speakers communicating with the team. These resources based in non-English speaking countries have often learned to write and have an easier time communicating more clearly writing versus orally.

Slang and localisms are not often taught, comprehended or familiar to foreign based staff. An amusing anecdote I have pertaining to this subject is a conversation that occurred on my team a year ago. My first name, Aaron, has generally been uncommon at many organizations I have worked at over my career. However, at my current employer, WebMD Health Services, there are a number of Aaron's within the technology department. In fact, there were two Aaron's on my team, myself and another. This became a somewhat confusing experience during our daily stand-up since often when you differentiate between individuals you might make eye contact with the resource you wish to provide an update. In our case this wasn't too practical given our different locations and at that time we were exclusively using audio without a video component for daily stand-ups. In jest and to alleviate confusion I stated I should be referred to as "Thing 1" and my co-worker as "Thing 2." Staff based in the United States immediately understood the reference to Dr. Seuss and it was quickly adopted in the daily stand-ups thereafter as well as in an occasional email. After a week or two subsequent to this being adopted, staff in Argentina inquired on the meaning of this reference. It was asked in an IM to me "what is this Thing 1?" I was quite amused and found the following YouTube video (<http://www.youtube.com/watch?v=r0F8rYqvmEw>) and provided some additional explanation so that it made sense to those team members.

It was an important lesson for me. How you should consider even small references of culture and what effect they may have in terms differentiating culture and most people (particularly technology professionals) are genuinely interested in learning about other cultures.

3 Summary

In conclusion, most people recognize we won't all be working in the same location. We may want that...or not. Regardless of our desires it is impractical to believe we will all be co-located. So how do we bridge the gap of geography, time zones and culture? We do it by achieving a bond and attempting to make a connection on a personal level prior to working as peers. It is easier for people to work with one another after you have positive feelings towards another individual. I know over the course of my career I have always enjoyed working with people I like that may not be as gifted technically or experienced if it is accompanied with a personality that I find pleasant that there are pleasant interactions and hopefully humor and shared interests.

I consider myself quite fortunate that I am not burdened on a daily basis with a commute. It is good for the environment, gives me more time in my day and permits me to reside in the location I wish in close proximity to my extended family. That by itself would be a gift from my employer to me while also being considerate enough to pay me a salary. In addition, I am afforded the opportunity to work with resources 1000 miles away in the Northwest of the United States, on the other side of the Hemisphere in India and the on the opposite side of the equator from me in Argentina. We have entered a new phase of technology where our opportunity to interact with different cultures and gifted engineers raised in another society with their own respective culture is one that can enrich my knowledge as a global citizen.

Most importantly in order to innovate we benefit from exposure to technical problems that must be circumvented. One of those technical problems is in fact social. Those of us that gravitate to engineering aren't adept or known for our social grace and ability to adapt to human emotions. On the contrary, we find ourselves ignoring a natural instinct we all have that fears or at least withdraws from change. Fear of change is fear of differences and Distributed Agile teams should embrace the opportunity you are afforded. How often do you get to have your morning coffee and talk about your plans for your workday while that other person on the screen is sipping a mate ([http://en.wikipedia.org/wiki/Mate_\(beverage\)](http://en.wikipedia.org/wiki/Mate_(beverage))) ?