Kanban University

KANBAN AT TUPALO
Enabling Nimble Innovation Delivery at a Free-Spirited Startup

Free spirit defines the people who thrive in a startup environment. It is the personal quality and approach to life that drives thousands of people out of big corporations into small, dynamic hubs full of hope and ambition. Free spirited souls seek to let loose their true potential amid all the risks and lack of comfort that startups are known for. For every newborn startup, many will disappear! To survive and thrive is rare, despite immense individual potential, great innovative ideas, and ubiquitous resilience of those involved. One of the reasons for failure is the flip side of the very genius that sparked creativity and innovation in the first place. Untamed, such enthusiasm can contribute to a loss of focus, especially as a startup gains some early success. Success drives inevitable expansion, which demands more resources, many more people, and the inevitable bureaucracy that comes with governing the investment and operational expenses of expansion.

Clemens Beer, co-founder of Tupalo, a startup based in Vienna, Austria, that provides a social networking service to help people find and review places of interest, found himself in such a situation. In 2010, three years after launch, his startup was expanding quickly. With a substantial user community and presence in a number of countries, increased demand from both external customers and internally driven product strategists began to stretch Tupalo's team of developers beyond their limit. Maintaining focus on what was most important was challenging. Prioritization was becoming increasingly difficult for the free spirits of Tupalo. In turn, they were becoming increasingly frustrated. Freedom was turning to chaos. This became a threat to the growth of the service and to the satisfaction of the team.

Nina Schwab, a project manager, was a free spirit looking for an entrepreneurial startup opportunity in 2010. Her inability to be independent in more traditional workplaces with power to make decisions and see them happen, had put her off previous jobs. She found Tupalo around the time Clemens was looking for answers on how to grow and scale his business without adding bureaucracy and delay. He'd just discovered the Kanban method. This is the story of how a suitable method and an insightful project manager helped a small startup with fewer than 20 people find a way to be more efficient without destroying the energy that had made it successful.

Background

Tupalo was co-founded by Clemens Beers and Mike Borras in 2007 as a niche service for vegans to help them find suitable places to eat in Vienna, Austria. While the application made life fundamentally easier for vegans who enjoy eating out, the two founders realized something else. "When we started the company in 2007, there was hardly anybody else in the Web consumer space. There have always been B2B high-tech companies, but not companies to which most people refer to as 'Web 2.0 startups,'" Clemens wrote in a blog post in 2010. Social media was about to take over the way of finding and selecting places of interest for millions of people, giving unmatched digital force to word-of-mouth. Use of traditional Yellow Pages and even simple online directories was in decline. Clemens and Mike turned Tupalo into a new generation of local discovery engine that served user-generated content in the form of votes, reviews, and ratings, serving multiple layers of shared experiences about specific locations. "We still like vegans and their eating habits, but we also think that it's helpful to find a good dentist in the neighborhood or the best club in New York City," an earlier post from Tupalo's blog points out.

Tupalo, a purely web-based application in its first years, was built by the two founders and a few developers. Clemens, the technology mover in the start-up, set the direction for the developers and the nature of the service they were providing. To help build a portfolio of locations in the web application, they partnered with various online directories and received basic data for hundreds of thousands of places. In exchange for this, Tupalo provided the layer of social user content that the community generated. The online listings integrated a widget

on their website that displayed the fresh Web 2.0 content, which gave the listings a more contemporary feel. Some of these external partners insisted on modifications to the application.

Tupalo initially focused on building a community and user base only in Austria. The usage by both early adopters and a more mainstream public was substantial, so the team decided to expand to other countries and to develop a mobile application for use on smartphones. As with the Austrian market, Tupalo had to find local online listing providers for each new territory and establish partnerships with them. The Tupalo team believed that people in other markets would similarly welcome the opportunity to review places of interest, interact with other people's content, and eventually build a community. Every new market entailed new contracts with external partners and generated fresh demand for modification to both the web site and the mobile application. By 2010 Tupalo's coverage had spread to several additional countries, it had an app for iOS devices, and it had four million visitors to its web site each month. The success drew interest from more investors, whose investments, naturally, came with an interest in the strategic direction of the business, and hence a say in the features for development within the application. The number of sources of demand for features and functions in the application was growing dramatically. What was originally the vision of just one or two people was growing to accommodate the wishes of many diverse stakeholders.

Since founding Tupalo, Clemens had always believed in continuous deployment for features and functionality. As soon as his developers completed something it was immediately rolled out in the application and made available to consumers. Even if a feature had defects, for this startup it was more important to constantly provide fresh enhancements and receive feedback about them, than to delay and provide higher quality. "I do not think in the history of Tupalo there have been many days in a row that something new was not released," Nina says. It was how the developers were used to working. Requests from external partners could not be released as quickly, though, because those partners needed to validate the functionality and approve it, which usually took extra time.

When Success Hurts

Eventually the volume of incoming requests reached critical mass. Developers were overwhelmed due to the sheer magnitude of the demand for features, upgrades, and revisions. They also felt that they were mostly doing work that was at the whim of external partners and that served purposes other than those at the core of the product. It was time consuming work of little strategic value, soaking up large amounts of capacity and hindering the strategic growth of the business and the vision for the product. It was also impeding the flow of continuous development because of the accumulated delays for feedback. Developers got the impression that innovation and strategic development of the product were taking second place. Prioritization became ever more challenging. Not having an actual place to stack them, more and more requests were picked up as they arrived and work was started on them before previous ones were actually finished. Their practice of continuous deployment began to drift away. It was becoming clear that this startup needed more structure to help solve these growing issues.

In a Search of a Method

Searching for a solution, Clemens wanted a method that would not change the way the team had worked so far or impose restrictions that would annoy the developers. He knew well what the consequences could be for the company if he didn't find the fine line that would suit the entrepreneurial spirit while providing the rigor and discipline that was now demanded. Clemens concluded that traditional project planning—or even a typical Agile software development process, such as Scrum, where items are planned in time boxes every few weeks—would simply have been too constraining for Tupalo. He came across the Kanban method and was caught by the visibility it encouraged. The transparency that was a core value of the Kanban method would enable developers and other stakeholders to see all the work there was to be done. This would assist them with prioritization and thereby increase the value they could deliver for customers. Despite the small size of the team, a visual Kanban board would give a much-needed overview. Understanding what was in progress and recognizing its urgency became a challenge as demand increased. That was especially true when Clemens was absent from the office, as much of the needed information to facilitate decision making was stored within his head. Introducing Kanban would put that information on public display for the whole team and would enable better decision making without waiting for input from the boss.

While Clemens was doing a further investigation of Kanban and assessing its appropriateness for a startup environment, he received Nina's pitch to be a project manager for Tupalo. The coincidence probably couldn't have been better timed. He invited her for an interview. "I remember in the very first conversation I had with Tupalo,

Clemens mentioned a book[1] he was reading about the Kanban method. He thought it actually might help. After a few additional meetings we decided to give the method a try and I was going to be the first ever project manager for Tupalo," Nina says.

Kanban in the Startup

"One of the first things I learned, being part of Tupalo, was that in a startup every task you work on must really feel right, actually contributing value to the product. The developers in Tupalo were used to having this feeling, knowing how each task and day contributed to this really great service

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[1] Anderson, David J. *Kanban: Successful Evolutionary Change for Your Technology Business.* United States of America: Blue Hole Press, 2010. https://www.amazon.com/Kanban-Successful-Evolutionary-Technology-Business/dp/0984521402

that every one of them enjoyed using. But at some point they had lost that sense of ownership of the product," Nina says. It was up to Kanban and Nina to help bring that feeling back to the developers. After just two months on the job, Nina introduced Kanban to the team. She wanted to hear their feelings and opinions about it. One of the developers reacted very negatively and was particularly hesitant about the Kanban adoption. "He thought it was something similar to the Agile practice Scrum and that I would be pushing work to him in batches and expecting it within a set timeframe," Nina says. As expected, the fear of too much structure scared these free-spirited startup developers. Nina sat down with them and explained that nothing fundamental about their work habits was going to change. Rather, through visualizing the work itself, everyone would find decision making easier. In

turn, this would help their service to grow. The team was used to uncertainty and experimentation, so they took the challenge, trusting Nina's advice.

In September 2010, the first physical Kanban board (see Figure 1) appeared in Tupalo's office. Along with that board, Nina introduced a few core principles of Kanban to the daily lives of the developers: The amount of work that could be handled at one time was limited; some work items were going to be treated as more important than others; and work was going to be discussed by everyone during a short meeting each day.

The Kanban board had four columns. The Input Queue was the backlog for all upcoming tasks. It was fed with demand from all relevant parties: Clemens, Nina, the other developers, investors and other partners, as well as end users. In order to prioritize the demand
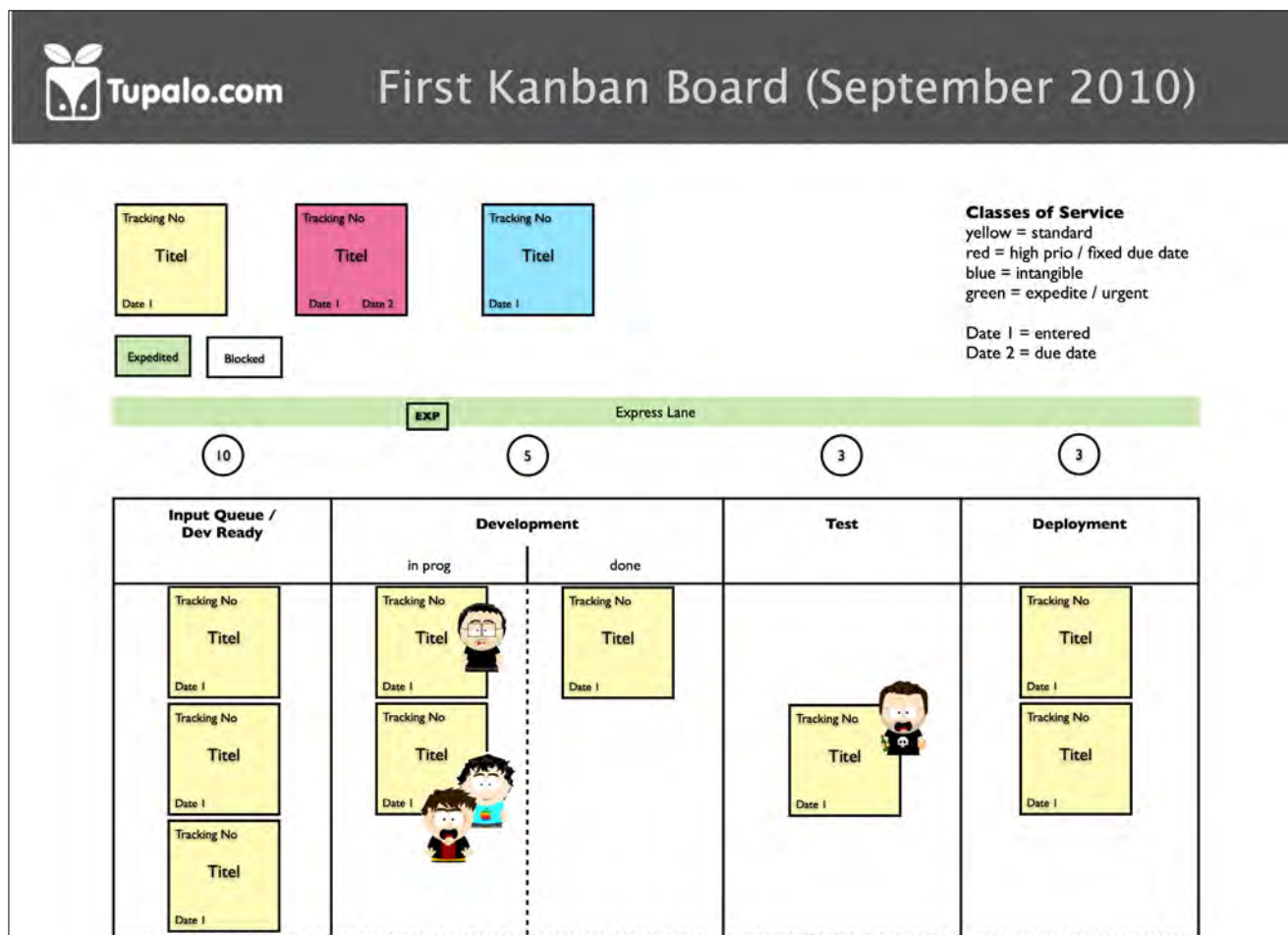

Figure 1 – Tupalo's first Kanban board.

so that everyone was satisfied, the team held replenishment meetings and introduced a few rules to guide the meeting. One of them was the equal allocation of requests from the various areas of demand for Tupalo: product development, search engine optimization (SEO), partner requests, and intangible tasks such as code maintenance. This balanced their efforts and made sure developers worked on everything that was important. The Development stage came next; its column was divided into "in progress" and "done" columns indicating whether a request was worked on or completed. Next was a Testing column, where each completed work item was investigated for quality. Finally, a Deployment column held the item until all the actions necessary to release the feature to the client were completed.

In addition to separating the work items into these stages, classes of service were introduced to help developers distinguish items of higher value or urgency from those for which they need not pressure themselves. The reality was that not every request was as urgent as the developers used to assume. To indicate the various classes of service, Nina introduced four different colors of tickets. Each ticket had a date showing when it was started. This helped Nina to evaluate the lead time afterward. Due dates, on the other hand, existed only on the red tickets, which were for requests from external partners or for those that were associated with events that Tupalo held. Examples of these were Summer and Christmas Community Parties, "Superuser Events" at special and unique locations for the most active users, "Cash Mobs" supporting shopping in small and local shops and "Tupalo Challenges". "Related to the events we organized for our community, the developers had to set up leaderboards and maintain them; they had to look through the userbase

often and analyze and extrapolate certain trends and users; they created badges that were earned by attending parties or checking into the event locations. They also had to make sure that whatever new feature we are presenting at that event, it has to work very smoothly. We had expectations to meet and the due dates helped us to be scrupulous," Nina describes.

The board also indicated the number of tickets that could reside in each column simultaneously. These work-in-progress limits, as they are referred to in the Kanban method, aimed to prevent the team from working on too many items at the same time. Such multi-tasking often delays delivery and reduces code quality. When the team focused on only a few tasks and completed them, it was easier to maintain their continuous deployment discipline. To determine the ideal limits for work-in-progress required the team to experiment a bit. Initial limits were written at the top of each column. To fight the established habit of multitasking from previous months, Nina introduced an additional visual aid to enforce the work-in-progress limits: black-colored magnets that held the cards to the board. There was precisely the same number of magnets as the desired limit to work-in-progress. It would not be possible to pull an additional ticket as there was no free magnet with which to attach it to the board. Any attempt to violate the work-in-progress limit policy would be obvious.

A daily standup meeting to discuss all ongoing work was set for 10:15 each morning. It was one of the few new habits that was mandatory for the developers to adopt. With a clearer understanding of the flow of work, the team started to think of ways to improve their processes. As a result, a new Kanban board evolved to replace the first one. A major difference was that the testing column was removed. "We used to do a bit of testing during

the development of requirements, but never as a stand-alone process," Nina explains. A new column was put between Development and Done, which united the efforts of checking whether the feature was completly finished with determining if it was what the team expected it to be. Furthermore, in this new Validation stage, the team also evaluated whether features delivered to their market met with customer expectations. Through this activity, Tupalo learned which features were more important and where to focus market activities.

How quickly tickets reached the Validation stage remained an issue. "I kept on wondering why some requests stayed In-Progress without any noticeable movement. When I asked the developers, I kept hearing that there were many smaller tasks within a request [that had to be done] before it could be completed, and that stopped developers from moving the ticket," Nina says. Most of the requests were written as features that would deliver actual value to the customer. The lack of movement that appeared, despite Tupalo's Kanban implementation—with its expectations of a fast and visible flow of work—was demotivating. Nina had to find a way to make visible not only the requests that were released to customers, but also the work within them.

Tupalo's third Kanban board (see Figure 2) for product development appeared in May 2011. It carried a new organizational logic and it made both the requests and the corresponding smaller work items visible. To manage this without creating a confusing mess, Nina split the board into two tiers. The columns on the parent, or top tier, were the same as on the previous board. Requests on this top tier were labeled as Minimum Marketable Features (MMF), a term used in the Agile software development community to represent a minimum definition of functionality for something of value that could be
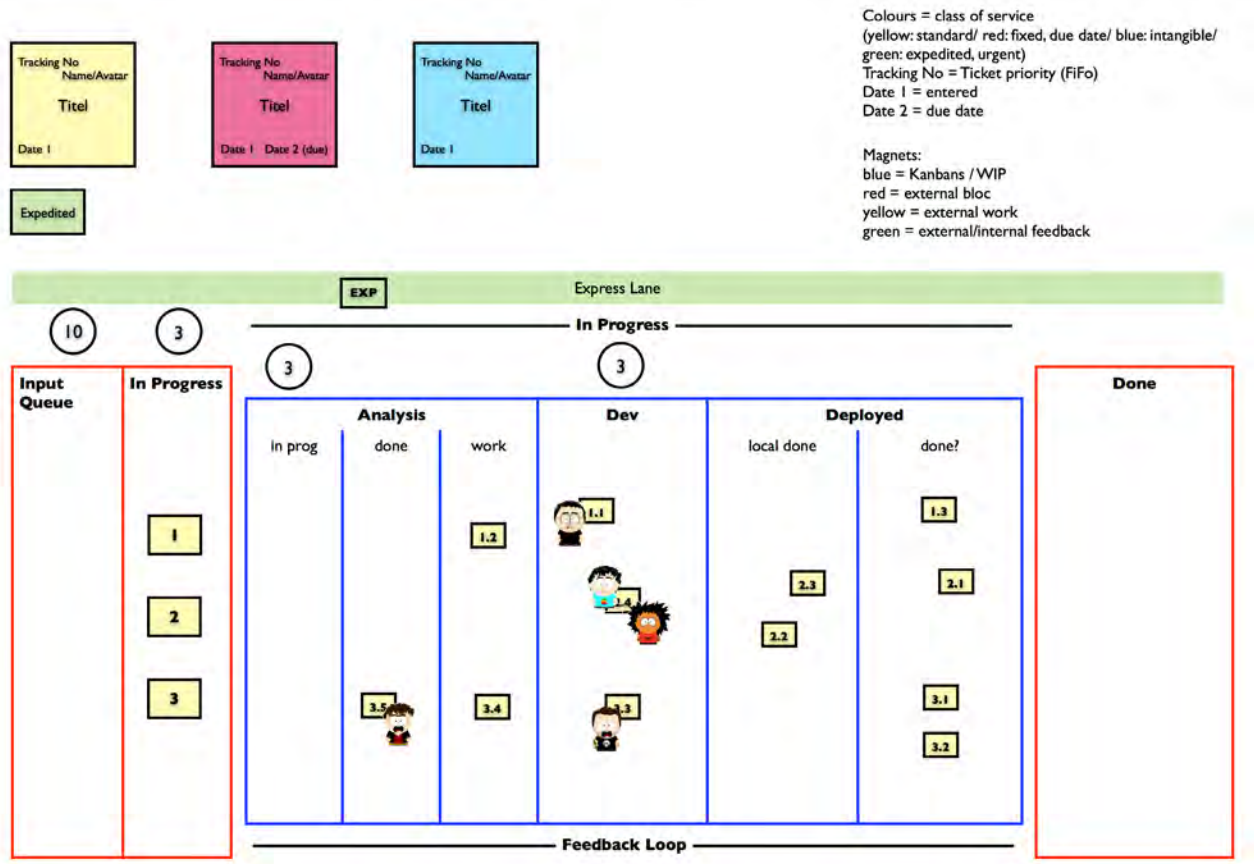
Figure 2 – Tupalo's third Kanban board.

delivered to the customer. The Input Queue and In-Progress columns were on the left-hand side of the board, with Validation and Deployment on the right. The second, or child, tier on the board was inserted n the middle between the In-Progress and Validation columns. It zoomed in on the development process for an MMF. In its first column, Analysis, developers evaluated whether each feature (or MMF) was worth pursuing and whether it would provide a valuable return on investment. If the developers agreed it was worthwhile, they had to define all of the smaller work items within it and write them on individual tickets. To assure movement, each work item had to be, in the developers' opinion, no bigger than a single day's work. All cards associated with a certain MMF

were placed visually parallel to it as they moved through Development and Deployment. After all the small cards were deployed, the MMF ticket was moved to the Validation column in the first tier. "After we began working with this two-tiered board and tasks began to move more tangibly, the developers started to really enjoy Kanban," Nina says.

Even though the flow of work from the developers was improving, there was still one impediment: validation by external partners. It took a lot of time and it created a block in the Validation column, occupying valuable space that could be used for other MMFs. "Sometimes we even lost track of these requests if external partners did not provide quick feedback. In the beginning I would send reminders,

but eventually [we] forgot about those tickets," Nina says. The team created a "parking lot" for the tickets needing feedback, which was placed directly under the second tier of the board. If the feedback was positive the ticket recieved a green magnet and was moved to Done. If the feedback required additional development work, the MMF ticket became top priority and was allowed in Development as soon as a slot opened. "Things didn't get forgotten any longer," Nina says.

One of the reccuring types of tasks was defect fixes: They were the byproduct of continuous improvement. Developers had accepted their existance, but when they came in the middle of everything, the defects were seen as yet one more disruption, interfering with the work that mattered
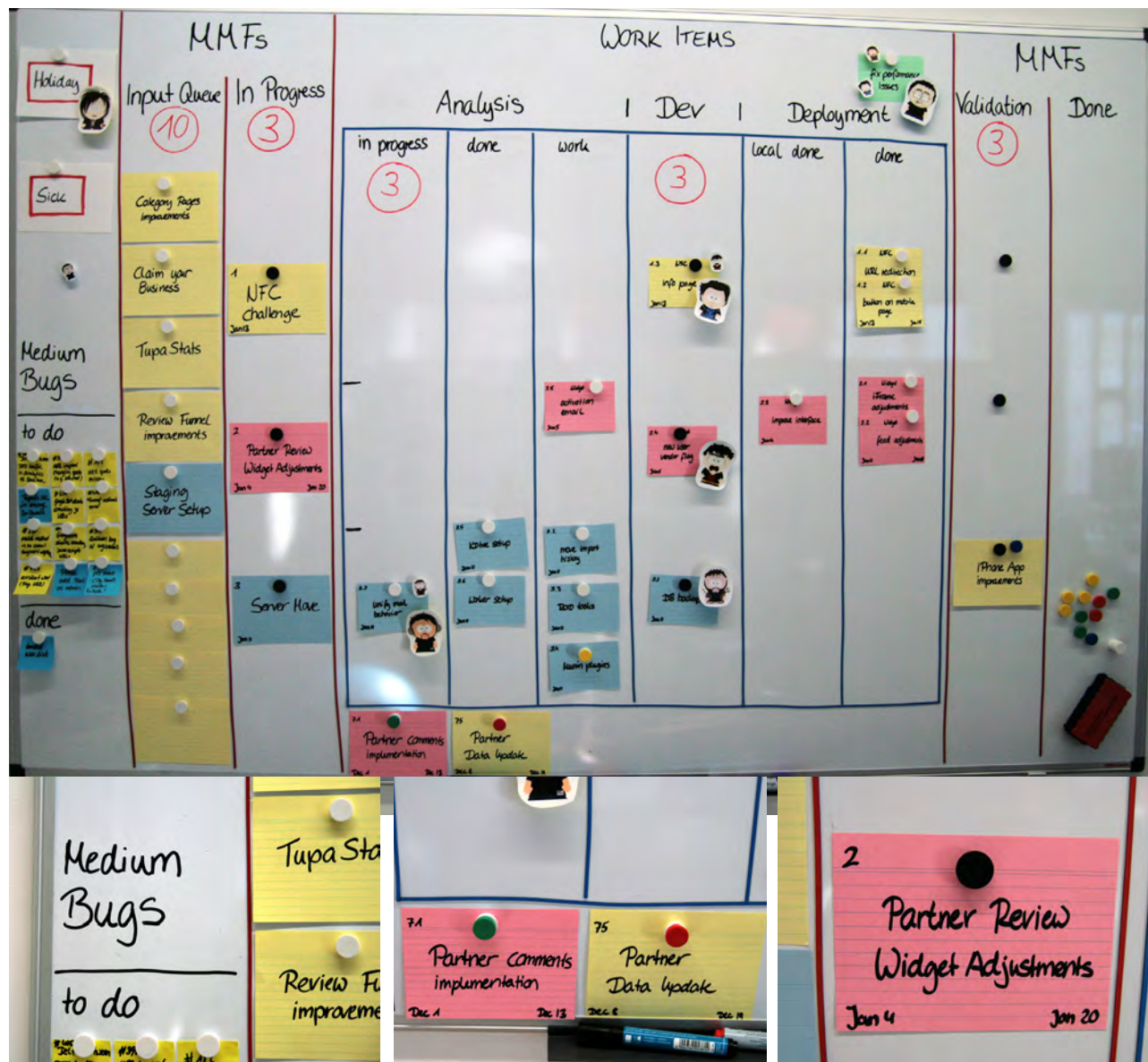
Figure 3 – The third Kanban board for IT with close-ups of some of the sections. From left to right: The secton of the board for Medium Bugs; tickets in the Feedback Loop; a ticket with an MMF.

the most: building on and innovating the Tupalo application. To avoid this disruption, one day a week was assigned for working exclusively on defects. Tupalo called it, "bug-fixing Friday." In addition, Nina and the team found a place on the board (see Figure 3) for the slightly bigger defects, which gave clarity to how many there were at any given time and how many were actively being worked on. Whenever someone on the team had slack time—while waiting on a blocked item, for example—he could pull up a bug and work on it.

After a year of evolution, the kanban system at Tupalo had changed

a lot. Many improvements stemmed from using it. "We never stopped experimenting, we never stopped shifting, and we never thought we had reached the ultimate process. We took full advantage of the continuous improvement principle of Kanban," Nina says. The lower work-in-progress limits paved the way for a new practice of pair programming, popularized with the Agile method, Extreme Programming. When someone had slack time because the work-in-progress limits prevented them from pulling new work, they would instead offer a fellow developer help, and thus collaboration improved. Team spirit

and code quality improved as a result. The levels of trust within the team improved. Reducing work-in-progress limits delivered several benefits—faster delivery, better code quality, productive discussions, and improved team spirit. Commitments were met better than ever before and without excessive stress.

The Kanban Method in Marketing

The flow of information among all of the developers in the IT group and the transparency of their work

was catching the attention of other free spirits in the company. Seeing the positive effects of the daily stand-up meetings, the discussions, and the workflow, Nina decided to spread around the Kanban method. Adapting Kanban to the Marketing and Community Management part of Tupalo, which, by the summer of 2011 had grown as a unit within the startup, was next. With more focus on countries outside Austria and an ever-larger user base, the team needed to do a lot of outreach and communication. More clarity and an overview of all of their tasks could improve the team's efficiency and help them feel less overwhelmed. Keeping in mind the variety of tasks that Marketing and Community Management was responsible for, Nina had an exciting but difficult task in front of her. At the time, there were not many examples of

Kanban implementations done for departments other than IT.

The Marketing team was based entirely in the office, together with the head of Community Management and the Community Managers for Austria and Finland. The rest of the Community Managers were spread throughout Europe, local to the regions where Tupalo was used. The team handled various projects for outreach and communication with present and potential users and content creators. Marketing and Community Management organized events, created competitions and challenges for users, wrote press releases, managed the social media presence of Tupalo, and performed many more promotional tasks. Keeping track of all of this was difficult, especially when someone was absent from the office.

Nina introduced Kanban to the

team and created their Kanban board. In the beginning it was difficult to define a task's exact process steps. "The process of organizing an event was very different from organizing a challenge for the users," Nina says. Challenges were marketing initiatives designed to engage users with the Tupalo platform and encourage them to interact more with the application—review particular places or check in at various locations, for example. Challenges had to be fulfilled within a set time and, in exchange, participants received cool prizes. Regardless of the type of communication effort, the team sought the kind of clarity that Product Development had achieved. Taking the common goal into consideration, the team turned the In-Progress column into a progress bar by making it very wide. This enabled the horizontal position of tickets to indicate an
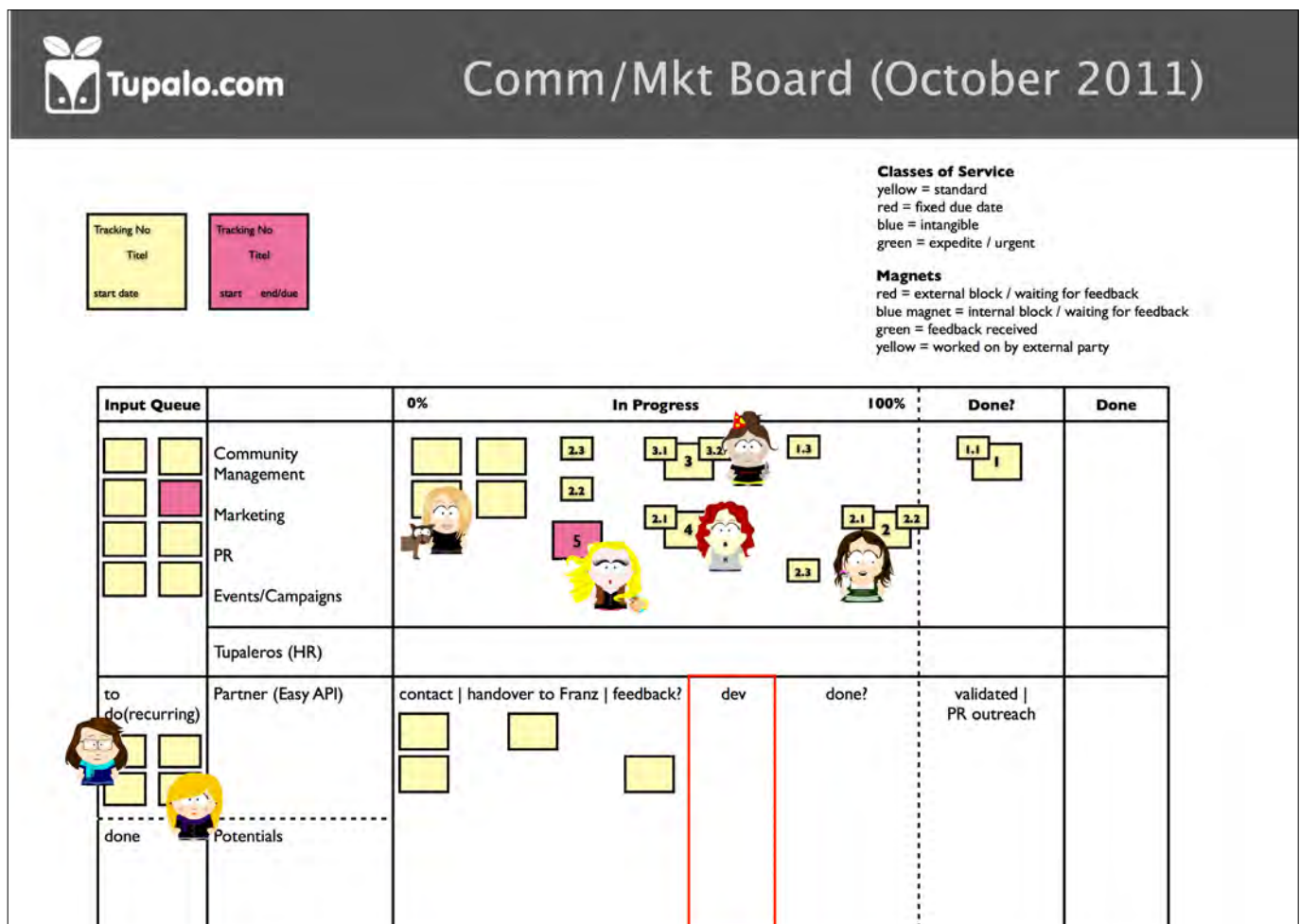

Figure 4 – The first Kanban board used by Marketing and Community Management.

Figure 5 – The second and most recent Kanban board used by Marketing and Community Management.

estimate of their completeness. Zero-percent complete would be positioned at the far left and 100% complete at the far right of the bar. Tickets would be moved along from left to right as work was performed and the task came closer to completion. In the long run this would help everyone have better expectations for the delivery rate from the team.

By October 2011, the Marketing and Community Management teams had their own functioning board (see Figure 4). Aside from In-Progress, the side of the board for the project-based tasks had columns for Input Queue, with all upcoming requests, a "Done?" column that acted as the validation stage, and a Done column for completed and approved tasks. The head of Community Management was responsible for moving the cards belonging to the Community Managers

based outside the office.

Aside from the more project-based requests, the Marketing and Community Management team had recurring tasks, such as writing and sending out newsletters and responding to comments about the web application. Nina considered those tasks similar to the defects that the IT team always had to work on and allocated a spot on the board for them. The rest of the Kanban board was used for smaller internal tasks. Again, classes of service were introduced to help define priorities and guide the team members as they chose which task to pull.

Introducing work-in-progress limits for this Kanban board proved more difficult than IT's was. "Because we did not have process steps, we had a hard time figuring out how to set work-in-progress limits," Nina says. Because tasks varied in size and

scope, Nina needed to find a solution that would work in every scenario. She opted for a personal approach to setting the WIP limits. Everyone on the team received exactly three individual magnetic avatars. Three was the limit of tasks each one could actively work on at the same time. There was one big avatar, which was used to indicate the main task someone focused on. The other two magnets were smaller in size, a metaphor to indicate that the rest of someone's focus needed to be for small side tasks. "In the beginning, keeping those limits was not easy. I remember once one of the Community Managers came to me worried that she had worked on a task without her avatar being on it. It was great to see how involved everyone was with the change," Nina says.

After just a few months of visualizing their work on a board, the

team and Nina began to notice that there actually were definable process steps in Marketing and Community Management's assignments. In January 2012, a second version of their Kanban board (Figure 5) emerged. Regardless of its concrete nature, each request the team received or devised was analyzed, prepared, and executed. Columns indicated those steps and the tickets moved through them. Everyone using the board began to get a clear sense of all the work there was and, in turn, focused on a few of the tasks, avoiding overworking. In a marketing context, providing slack is particularly essential in order to leave room for creative inspiration. "I remember there was this really warm week during the summer and we kept eating ice cream and quarrelling over opinions about where the best ice cream could be found. So the team came up with an idea for a challenge to ask the users to find the best ice cream parlor by reviewing as many of them as possible. The one who reviewed the most got a pretty refreshing prize," Nina says.

Nowadays the Kanban spirit lives in the Tupalo office alongside the freedom spirit, the innovation, and the risk taking. "Kanban makes life easier! We tackle the obvious and the not-so-obvious, without sacrificing the happiness of our free-spirited developers. Colorful and useful, the boards have been great for just-in-time updates," Nina says. Realizing that a scientific method does not destroy a startup, but rather strengthens it, Tupalo also has been implementing some of the Lean startup principles—experimenting often with early versions, getting feedback for them from early adopters, and improving accordingly.

Conclusions

Kanban brought a rigor and discipline to a free-spirited startup, which allowed its people to focus on what was most important—delivering new innovations in a timely fashion. It achieved this without destroying the free-spirited culture and played a significant role in maintaining and enhancing the quality of life for Tupalo employees. Kanban enabled Tupalo to do the right work the right way while providing transparency and visibility into progress and managing business risks. Collaboration and levels of trust improved across the whole team. Kanban contributed to making Tupalo a delightful place to work that is well respected by its business partners and loyal user base. And all this with the help of a few magnets, colored paper tickets, markers and some playful avatars (see Figure 6).

Figure 6 – The magnets, colored paper tickets, markers and avatars that Tupalo used on their Kanban boards.

About Kanban University

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