ChannelOnline: Managing a Geographically Distributed Team

Sasidharan, Randeep Gupta, Rahul

November 4, 2016

ABSTRACT

Wasabi Retail USA, a subsidiary of Wasabi Inc., is retailer's first choice for integrated store solutions for retail industry, having solutions deployed in the largest retailers across the globe. It is committed to delivering innovative commerce solutions that transform checkout experience, provide seamless consumer interactions and optimise retail operations. They provide end-to-end solutions, services and support that help clients meet virtually any retail technology need.

In early 2011, to maintain their market leadership, they planned to develop a strategic software product with which the existing retailers can take their business to the next level. In addition, ChannelOnline is an important endeavour for Wasabi Inc. to realise its strategy of balancing software and hardware revenues. One of the specialty retailer, Petals, shown interest in this product and agreed to invest upfront as funding partner for the product development. Based on the contract, March 2013 was decided as first delivery of this product to Petals for lab usage

Wasabi Inc. has a subsidiary in Bangalore, India known as Wasabi India Pvt. Ltd (WIPL). WIPL provide software development solutions and services to various Wasabi subsidiaries across the globe. It has large employee base and is a CMM Level 5 certified organisation.

WIPL was given the opportunity to take part in ChannelOnline development. This was a first initiative between Wasabi Retail USA and WIPL. WIPL recruited members with relevant technical skills to participate in the development and testing operations. As with any outsourcing project, there were many challenges like – new team formation, resource allocation, communication and executive commitment.

This case study analyses the outsourcing model, process and project management techniques followed by Wasabi Retail USA and WIPL. It also explores how this helped in delivering the software product to customer utilising a geographically distributed team.

1. Introduction

John was an Executive Director at Wasabi Retail USA who was responsible for Retail Division - Software Development worldwide. John's organization spread across USA, Mexico, Europe and India.

Pablo was a respected Delivery Manager in Wasabi Retail USA reporting to John, experienced in managing multiple product development teams. He was given responsibility to manage the delivery of ChannelOnline.

Emily was a proven Senior Project Manager in Wasabi Retail USA and had been entrusted with responsibility of project management for ChannelOnline, a strategic product for the business unit.

William was a Senior Technical Director at Wasabi Retail USA. and was responsible for the overall technical architecture of ChannelOnline.

Vivek was a Senior Manager at WIPL currently managing one of the existing project of Wasabi Inc. at Bangalore. He used to take project directions from John at Wasabi Retail USA. He was given an opportunity to start new ChannelOnline team in WIPL Bangalore.

Rohit was an experienced Project Manager, who joins the WIPL team as a Project Manager for ChannelOnline team in Bangalore.

Figure-1 shows the organisation structure and reporting hierarchy.

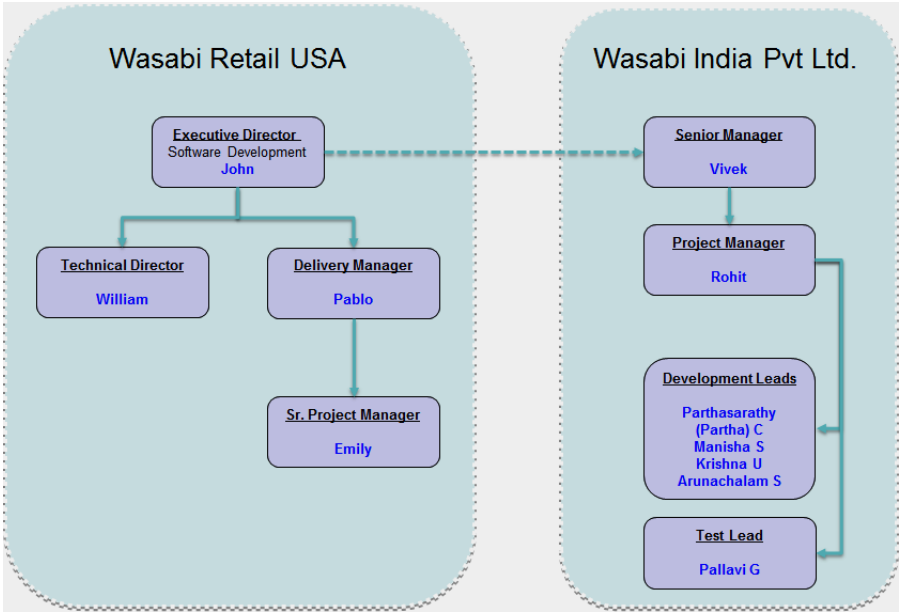

Figure 1: Organisation Structure of Wasabi Inc. and Wasabi India

Vivek and Rohit hired team members and built the team of fifteen members. Ten developers and five testers by June 2011. Based on the experience and qualification of the new team members at WIPL Bangalore were given appropriate roles.

John had shared the high level timelines with Vivek and expects to start the work ASAP. The timeline details are as in Figure 2.

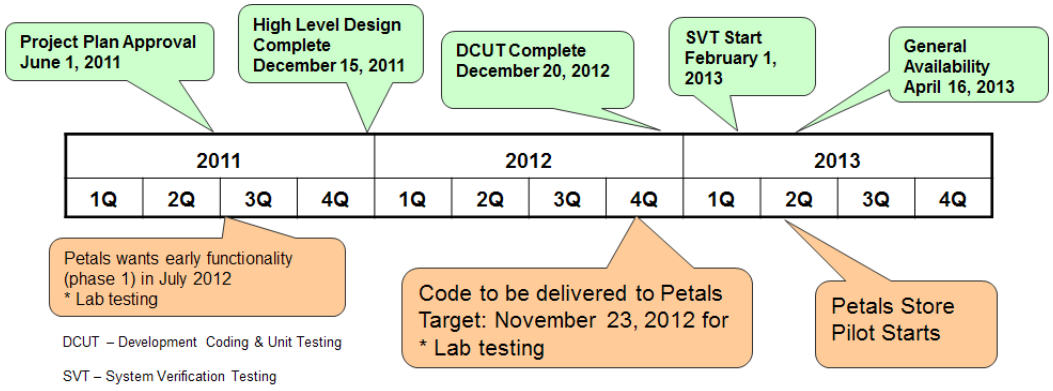

Figure 2: Project Timeline

2. Project Initiation

Vivek's team in Bangalore was newly formed and most of the members were Java experts. However they lacked the domain knowledge of Retail industry. One of the conversation at the start of the project at WIPL is as below.

Vivek: Hello Rohit, Good morning. Do we have an agreement for which all modules WIPL can start design and development process?

Rohit: No Vivek, this decision is still pending with Emily.

Vivek: We need to get started with development and can't be waiting a long time for decision. Can you request Emily for a quick decision?

Meanwhile a conversation at the same time at Wasabi Inc. was as follows.

William: Hello Emily, How are you?

Emily: Hello William, Doing well. How about you? How is your interaction going with WIPL team?

William: The India team is enthusiastic but are asking very basic questions. This is taking up quite a bit of my time.

Emily: Yes, I understand. I am in a dilemma on which modules do I assign to them. I should probably just select modules that are non-critical for April 2013 general availability. What do you think?

William: Yes that sounds like a good idea so that they can learn and deliver.

Emily allocated four modules for the WIPL team –High Availability server, Software Distribution, Reports & Analytics and Systems Management. These modules

were integral part of the solution however not the ones, which will be used by the customer at launch stage. ChannelOnline team in USA was too busy developing modules allocated to them, as there was significant pressure for timely delivery. Despite the busy schedule, three architects from US team were assigned key responsibility of providing required input to the WIPL team. Figure 3 shows the composition of the leadership team of ChannelOnline.

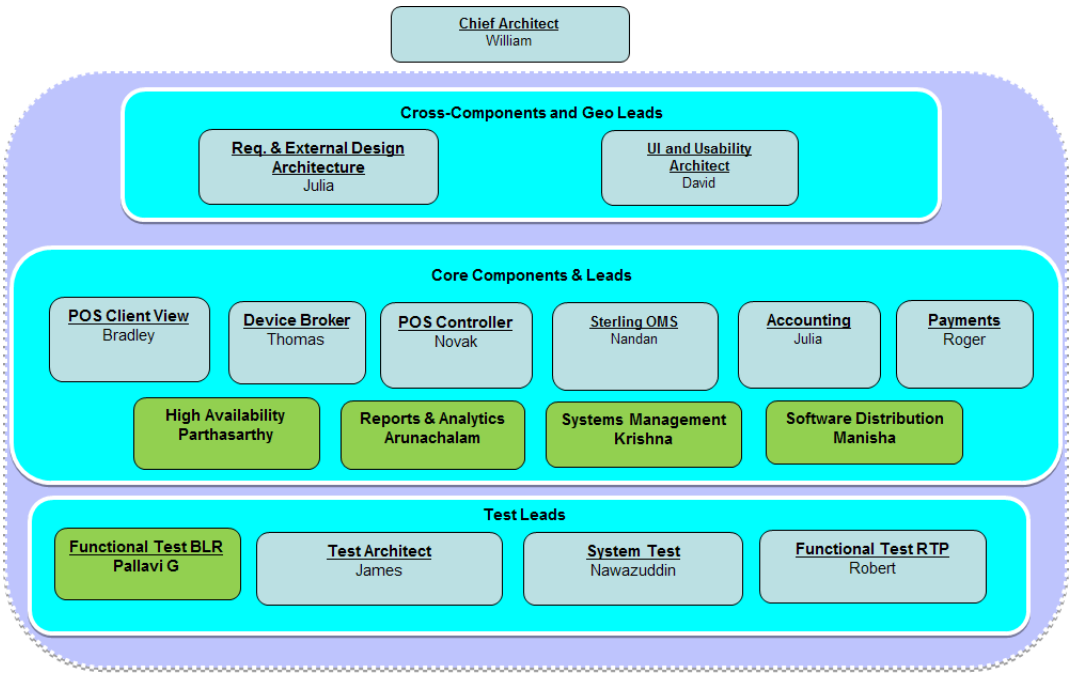

Figure 3: ChannelOnline Technical Leadership Structure (2012)

In October 2011, team in Bangalore started the requirement analysis and design process for High Availability, Software Distribution, Reports & Analytics, and Systems Management. William was planning to visit Bangalore in December 2011 and have high level design reviews during his visit.

High Availability server is a function that provides a backup server in the store premise with limited capabilities in-case of connectivity issues with the main enterprise server. Software Distribution is a function required for synching data between headquarters and remote stores. Reports & Analytics provide information on performance of products as well as resources for a retailer. Systems Management is a function of ChannelOnline, which provides capabilities to remotely manage the whole solution. It gives capabilities like inventory collection, automatic software updates, generating logs, events and alerts from the application, which gives information about application health. As this module was central to the whole system, it depended on other core modules for its design and testing.

In November 2011 four member High Availability server team with Partha as the Lead were working on the design. Partha wanted the review of draft design

document with William –Excerpts from design review call between William and Partha.

Partha: Hello William, How are you?

William: Doing good.

Partha explains the design

Partha: When data is available at the High Availability server on a particular folder, data synchronization gets triggered manually.

William: No, This won't work. We would need automated data synchronization. No manual intervention is expected at a production situation. Please think from customer perspective; how will retailer trigger data synchronization from 100's of stores?

Partha: Sure. We will work based on automated options.

William: Thanks; Also I see that you have coupled business logic and transport mechanisms together. Make sure your design has transport layer separate from business logic.

Partha: Why is that?

William: Customer environments differ. They typically would like to choose their own transportation mechanisms. Hence it is a better design to separate out transportation layer and business logic. You can talk to Chuck on how he has implemented such in our TRMA product where he separated out transportation layer.

Partha: William thanks for your valuable feedback and contact points. I will rework the design based on your inputs.

December 2011, during William's visit, WIPL team got an opportunity to learn more about the product, Retail domain and clarify the requirements to a certain extent. High-level design reviews were conducted jointly and were successful. After the design reviews; low level design did require lot of interaction between Bangalore and USA teams.

Emily had projected timelines for interim functional demonstrations to executive management and Petals. She had to keep the pace of development as per the projected schedule for the complete team, both in USA and Bangalore. She also had adopted the Wasabi Retail USA best practices from Agile methodology for the project. She created governance model for the project as in Figure 4.

	Monday	Tuesday	Wednesday	Thursday	Friday
Local Scrum	Local All	Local All	Local All	Local All	Local All
Scrum of Scrum			Global Leads		
Project Management	Global - DPMs				
Management					Global
Test Interlock				Test Team	
Executive Reporting		All Managers			

Figure 4: Governance Model

3. Development

Detailed design discussions were done, reviews conducted before designs were published to the architects in USA for approval. Communication between Bangalore and USA was structured through wiki pages by publishing questions and agenda in advance.

In February 2012, project development was progressing on a tight schedule with expectation of Interim demonstrations as per agile practices. Each of the four modules assigned to WIPL was taken care by a separate team. Vivek and Rohit were working closely with the teams. Both of them took the technical and mentoring responsibilities for two separate teams.

May 2012, Team Leads from Bangalore continued their assigned modules and had weekly meetings with the architects from USA. Low level details of the modules were defined, use cases were reviewed and agreed upon and basic architecture was developed.

During June 2012 mid-year project review, Emily brought out that project was not making expected progress. On probing with team for reasons, architects in USA brought up a concern to Emily and Pablo, that the team in India is taking up their time and they are not able to progress well on their own modules. Development from India was also slowing down, as the getting the details of the use cases, design & code approvals from architects in USA was taking time.

Emily and Pablo were worried about the progress, while Vivek & Rohit were frustrated with lack of response from USA. During a management meeting on Friday, they discussed how to improve the situation and resolve the dependency between the leads and architects. It was agreed that the weekly report would specifically mention dependencies on leads & architects highlighting work that is not done.

Because of having specific details in the report, it became clearer that some of the critical user stories were blocked. Since critical user stories were blocked; Bangalore team started working on lower priority user stories to continue the development.

Around August 2012, William brought out that he was not very happy with the way High Availability Server work was going on in Bangalore. He felt Partha is not able to take up the technical challenges and complexity of the module. He insisted that there is a need for an architect in Bangalore who can deal with the complexity and technical issues and free up time of architects in USA. Vivek and Rohit had a discussion on feedback from William. They decided Vivek would assume the role of full time architect and give up people management.

Rohit took responsibilities of people management in addition to managing the project. Lead for Software Distribution (Manisha) was performing well and because of her performance, she was assigned the responsibility of High Availability Server. After this re-arrangement of roles and responsibilities, it became easier for William to work with the WIPL team.

In September 2012, Reports & Analytics development was progressing as planned. But for Systems Management only the basic infrastructure was ready. Dependencies from other modules started blocking its progress. When progress of Systems Management module had come to a standstill; Rohit discussed this situation with Vivek.

Rohit: Hello Vivek, Our modules are blocked either on design approval or pending information from other modules. We need the other teams to respond to our request.

Vivek: Is Krishna ready to travel to USA? A short co-location can help solve this faster.

Rohit: That is a good idea. Let me suggest that option also to Emily.

Rohit discussed with Emily about the Systems Management module.

Rohit:: Hello Emily, How are you?

Emily: Hello Rohit, Good Thanks! I wanted to thank you and Vivek on bringing Manisha to team. William and rest of architects here are happy with the change.

Rohit: Thanks and good to hear the change is working out fine. Can we talk about System Management module? I think we should increase the priority for System Management with other developers and leads. We are blocked due to dependencies on other modules..

Emily: Looking at the effort that needs to be spend by teams, leads & architects and overall delivery commitments I feel we should stop working on System Management. Can you utilize the System Management resources to other modules which are lagging behind?

Rohit: Sure if System Management is not a priority, we can assign the resources to High Availability server.

Based on inputs from Emily. Krishna, System Management Lead is moved to High Availability Server team. He was developer par excellence. Even though Krishna was unhappy with the loss in focus on System Management module which he had developed for past one year, he was excited with the opportunity to work on a complex module like High Availability server. Other team members were assigned for modules developed by teams in USA.

High Availability and other modules picked up pace, with the infusion of additional team members. However overall project was still lagging behind due to various factors. There was increased pressure from higher management for completing the user stories as per sprint planning. Team was working very hard. However there was a slow realization that it may be difficult to complete the development by March 2013, as planned.

January 2013, without informing Rohit and Emily, Vivek requested Manisha to review the backlog for High Availability module. All building blocks of High Availability server were completed however, it still required a lot of efforts to make it production ready. Manisha added all the user stories to the backlog. Due to which the backlog grew significantly. The user stories added by Manisha also created dependencies for other modules. Emily was shocked after seeing this spike in the backlog. It definitely meant that project cannot finish by March 2013.

During the executive reporting to John, everybody was shocked to see this slippage. A review meeting was called where Vivek and Rohit have to explain about the slippage. Rohit and Vivek prepared for executive briefing bringing out the pending work for High Availability server and the dependent work that needs to be done by other modules. William also backs up the analysis made by Rohit and Vivek.

John had to take a decision and guide the team on future course of action. There was no possibility of changing the committed timeline for ChannelOnline to Petals –which was March 2013. Given that the March delivery was for lab usage and acceptance testing, what could be possible solution for the team to deliver on their commitments?