

Third-Party Outsource Management

CASE STUDY

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Overview

The Dormac's Video Surveillance System software development was outsourced to TMS, India and they completed 2 of the flagship projects with Dormac. But their cost was high and quality was not met.

DSIP, India an integral part of Dormac Corporation was introduced to manage TMS for their next generation VSS product.

The responsibility of DSIP was to manage TMS software development with double the productivity and improve the quality with DSIP's partial development support.

TMS saw DSIP as one of their competitors and their lack of cooperation finally brought them on the verge of a difficult situation from where on, there was absolute confusion ahead.

Abstract

The following context provides a detailed insight on third-party outsource management and can be used as a reference in handling various critical situations that might arise during the course.

Introduction

DORMAC Corporation (Japan)

Dormac Corporation, a Japanese multinational company is focused on advanced electronic and electrical products, spanning information and communication equipment and systems, Internet-based solutions and services, electronic components and materials, power systems, industrial and social infrastructure systems and household appliances.

Dormac Video Surveillance Business Unit (Dormac-VSBU)

Dormac Video Surveillance Business Unit (VSBU) is under Social Infrastructure business unit focusing Video Surveillance System (VSS) for its local and global customers.

Key Members Involved

The key role players for Video Surveillance product are shown in the table below.

Key Members	Designation
Yutaka-san	Sr. Manager, VSBU
Ken-san	Manager, Software division, VSBU

Dormac Software India Pvt. Ltd. (DSIP)

Dormac Software India Pvt. Ltd. (DSIP) is an integral part of Dormac Corporation, Japan. DSIP is a CMMI L5 and ISO27001 certified company and set up to develop reusable software components. DSIP works for software solutions at all layers of software architecture – Drivers, OS & schedulers, Multi core Firmware, Middleware and Applications.

How it All Began?

With a tough responsibility of building something that the company had never planned before, Mr. Vinay had to undergo training in Japan for 4 months in Video Surveillance domain and planned to be a key role for third party management. He returned to India to coordinate offshore activities. The initial agenda followed by Mr. Vinay was to quickly build up a 5 members team (each member responsible for a module) at DSIP.

Key Members	Designation
Mr. Ragu	Sr. Project Manager, Semiconductor
Mr. Vinay	Project Leader, Semiconductor

TMS Solutions (India)

Being one of the biggest software service companies in India, TMS provided any kind of software service for their internal and external customers. Their major focus area is application software development for any kind of products. They have branches in multiple countries including Japan.

Key Members	Designation
Mr. Cevin	Department Head, Consumer electronics
Mr. Sameer	Project Manager, Dormac Corp. projects

Past Situation and Hurdles

TMS solutions already completed 2 UIM product's (Kv2 and Dv4) software development within 3.5 years. But Yutaka-san seemed to be totally upset with the performance delivered by TMS because of its high cost and poor quality. Dormac Corp. was not in a position to manage TMS because of the geographical and cultural differences. In Yutaka-san's view point, TMS could be managed by another Indian Company. Thus he approached DSIP to manage cost and quality of deliverables from TMS. DSIP joined the project in the end of 2010 and the initial scope was to coordinate and manage TMS's offshore development.

Third-Party Outsourcing

It was a Friday evening in the year 2014. Outside the office, the weather was slightly breezy with light showers. Mr. Ragu and his colleague Mr. Prem were discussing about "Third-party outsource management" sitting in the cafeteria sipping a hot cup of coffee. Recently Mr. Prem had undertaken the responsibility of a project where there was 3rd party involvement in the development.

"I don't have any prior experience with 3rd party outsource management." Said Mr. Prem. "Third-party outsource management is indeed a complex task." whispered Mr. Ragu.

After a few seconds of silence, Mr. Ragu started explaining his long and annoying experience with TMS Solutions. TMS started Video Surveillance software development for Dormac Corp. in the year 2008 and had completed 2 product's software developments (Kv2 and Dv4) under the direct management of Dormac Corp. But Dormac Corp., Japan was totally upset with the performance delivered by TMS because of their high cost and poor quality. Dormac Corp. wants DSIP to manage TMS for their next product (Kv3) because of DSIP's geographical and cultural advantage. Even though DSIP had managed to complete Kv3 project with great success, the challenges that we had faced were numerous.

"Since I am going to manage a third party vendor I would like to know the background of success with TMS." requested Mr. Prem.

Mr. Ragu takes a deep breath and tries to re-collect some of the experiences his team had faced during the execution of Kv3.

Yutaka-san, senior manager, Dormac-VSBU division, arranged an initial meeting between Dormac, TMS and DSIP to discuss the following agenda.

1. Initial discussion of Kv3 project
2. Introduction of DSIP

The Route Ahead

The initial meetings went well with following conclusions (Refer **Appendix-D** for detailed meeting discussions).

1. DSIP will involve in Kv3 project.
2. Kv3 project should be completed within 10 months (Refer **Appendix-C** for Kv3 project timeline).
 - a. 1st customer release (only functionality support) => 14th Dec 2011
 - b. Final customer release (functional/non-functional support) => 26th Feb 2012
3. DSIP will do existing OS porting on new temporary HW with additional design improvements.
4. TMS will do middle layer and application development and also implement new functionality in OS.

The following challenges were involved in Kv3 project.

1. The project must be completed within 10 months (where as previous similar project Kv2 took 2 years).
 - a. More than 2 times of productivity improvement in TMS must be achieved to meet the target
2. Estimated modification in LOC for Kv3 = 106 KLOC (where as Kv2 = 102 KLOC) (Refer **Appendix-B**).
3. The HW was new and new HW design will take 7 months

4. The project development uses 3 different HWs (2 times porting required for new HW)
 - a. Functional development(TMS) => on 91J (old HW), functionality/system testing not possible
 - b. Existing OS porting(DSIP) => on 91K (temporary version of new HW), non-functional testing not possible
 - c. Integration(DSIP/TMS) => 1st integration with 91K (DSIP), 2nd integration with 9QM (TMS)
 5. Another 2 more vendors were in competition with Dormac Corp. for this project and they had agreed for the customer's timeline.
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Back in the cafeteria, Ragu took his last sip of coffee. "TMS did not accept Dormac's proposal easily." Said Ragu. They took 2 days for internal discussion and came back with their proposal. Curiosity was at its peak and Mr. Prem was eager to hear about the next events. "Wait! We can take one more coffee before we continue." Said Ragu. After taking the coffee Ragu continued - the following day, Mr. Cevin said that they had agreed DSIP support for the next project. He proposed that DSIP can do porting of the existing software on temporary version of new HW (91K) and find the HW issues and report to TMS.

TMS will do final integration with DSIP's OS and porting of final software on actual new HW (9QM). Dormac Corp. agreed TMS's proposal.

"That day, Cevin-san's response made me realize that he was indeed the owner of a clever mind as they thought that giving a chance to DSIP, to port the final software on new HW will be a risk for their future business. At the same time TMS cannot take complete responsibility of the HW porting because of the huge risk in the stability of the latest HW." Said Mr. Ragu.

The Turning Point

Yutaka-san was soon promoted as the division head and Mr. Ken was taken in charge of Dormac-VSBU. During 4 months training in Japan, Mr. Vinay used to report to Mr. Ken, he was very talented and a quick decision maker. During the onsite activity Mr. Ken understood Vinay-san's potential in project management.

Mr. Ken said that TMS had finally agreed for DSIP's involvement, thus overcoming the first hurdle. Mr. Vinay replied that this was just a beginning and that there was a long way to go. He continued that TMS will not cooperate easily and they will find some or the other way to avoid DSIP. Mr. Vinay had analyzed previous project's process/metrics and suggested some improvement points (**Refer Appendix-E** for DSIP improvement proposal) to improve productivity and quality.

“Even though we could make TMS agree with our improvement points with long discussions, later we realized that making them follow the process was going to be a tough task.” Said Mr. Ragu to his colleague. The 2nd cup of coffee also got over. Since it was a Friday evening with heavy rains outside, Ragu’s colleague expressed his interest to continue with the topic.

Ragu continued, “During Vinay’s initial visits to TMS he used to request to see the evidence of their process/progress such as TMS’s internal review report, internal plan/progress, completed task documents/ source code, etc. But many times they could not convince him by the evidences of their progress.

Gradually he realized that in the TMS’s report, they used to show task as completed, but actually, the task was not complete. Initially, Vinay used to report it and used to discuss in the weekly 3 party meeting. When this continued, Sameer made his side safe by telling that all the improvement points are very difficult to implement in the current critical schedule. The schedule will get impacted. I made my point clear by saying that all tasks including process tasks are estimated and already planned and agreed, there is no point to change it now, it is just a matter of how we manage it. I also said that these process improvements were already discussed and agreed in our contract and the contract was signed by TMS’s VP. “Don’t you value your VP’s signature?” I asked. When TMS understood that DSIP was checking each and every evidence, and won’t compromise, they started following the process and started reporting correct progress on time.

We realized that it is not time but people’s mindset that needs to be changed in order to divert from their usual practice to something new.

After the Requirement Analysis, 1st Review meeting is planned.

The 1st Review meeting for Kv3 project (29th Jul 2011)

Participants

Dormac-VSBU	DSIP	TMS
Yutaka-san, Ken-san	Ragu-san, Vinay-san	Cevin-san, Sameer-san

After the initial conversation, the project review started.

Yutaka-san(Dormac): Cevin-san, is the requirement analysis completed? Are all review comments closed?

Cevin-san(TMS): Yes. Requirement analysis is completed as per the plan and all review comments are closed.

Ragu-san(DSIP): Dormac review comments are closed, but at DSIP, few review comments are still open.

Sameer-san(TMS): All technical/functional review comments are closed, remaining are non-technical/non-functional review comments.

Vinay-san(DSIP): Non-functional review comments are also important, especially performance/power off related, If we don't take care of that now, later it will be risky after porting it on new HW.

Sameer-san(TMS): We will close it soon.

Cevin-san(TMS): We are sharing our progress weekly, but DSIP's progress is not clear for us. DSIP's activity is very important for HW stability and easy porting on new HW.

Ragu-san(DSIP): DSIP's Requirement analysis is completed and design is started and weekly we are updating our progress in DSIP and Dormac Weekly meeting. We are applying 5 design improvements in existing OS design for easy porting to any HW, especially memory design.

Cevin-san(TMS): I am wondering why such improvement designs are not being discussed with TMS.

Ragu-san(DSIP): DSIP's improvement points are already discussed with Dormac and they have approved it.

Sameer-san(TMS): Memory design is very complex and it is tightly coupled with current entire SW architecture. Even small changes in the memory design will impact overall SW stability.

Vinay-san(DSIP): Yes. We knew that, supporting Kv3 features in new HW required lot of changes in memory design. But the current memory design is not flexible to support even small changes and it is very difficult for DSIP to do any modification, so we decided to go for a new design.

Sameer-san(TMS): The change in memory design will impact not only SW, but also the TMS's test environment. The system test scripts are tightly coupled with memory design. Who will change the system test scripts?

Vinay-san(DSIP): Oh, is it? That's new information for me. I didn't know that. But I cannot understand why memory design and test scripts are tightly coupled? In that case whenever we change HW or small changes in memory design will impact Test environment too, that is not good.

Cevin-san(TMS): Because of VSS special features, during Kv2 implementation time the test environment was prepared like that. Yutaka-san, if DSIP modifies the design without knowing the entire system, it will be a huge risk for our project.

Now Yutaka-san is little concerned about DSIP's activity and asks Ken-san.

Yutaka-san(Dormac): : Why did Dormac approve DSIP's memory design without analyzing the complete side effects?

Ken-san(Dormac): Dormac reviewed DSIP memory design w.r.t Dormac Acceptance Test environment. Dormac's Acceptance test environment is using offset based test scripts which can be easily changed based on DSIP's memory design. We did not expect TMS's system test environment is to use direct physical memory.

Yutaka-san(Dormac): Cevin-san, how much effort is required for changing TMS's system test scripts?

Cevin-san(TMS): We don't have any plan to modify our system test environment w.r.t memory design in the current critical schedule. We will follow the current memory design and I recommend DSIP also follows current memory design.

Ken-san(Dormac): I recommend let DSIP follows new memory design which will be very useful for our future SW maintenance. Let TMS follows old memory design and we can use TMS's memory design for final Kv3 project.

Cevin-san got relaxed and feels more comfortable. But he didn't want to stop there.

Cevin-san(TMS): Ok. That's fine. But I have still concern about DSIP's activity. Instead of improvements they must concentrate on HW stability which is the biggest responsibility for them. This domain is very complex and there will be many such grey areas for DSIP. If DSIP cannot complete their responsibility on time, in the later stage even TMS cannot support. We have to take right decision at the right time.

Cevin-san tried to create a heated environment and suddenly asked DSIP.

Cevin-san(TMS): Your team must understand more about current system, and new requirements. I think your team is not well aware of the new requirements. You have to do re-design, port on new HW, then do testing and maturity of both HW and SW with Acceptance Testing within 4 months. How will you manage it? Please speak out frankly.

Everyone was eagerly waiting for the response from DSIP in this tensed situation. Even Vinay was little conscious, because he understood there are still some grey areas for him to handle, and the responsibility was very huge with absolutely no sufficient time.

Ragu-san(DSIP): About the new requirements, DSIP team has already completed requirement analysis and is involved in all the technical discussions between TMS and Dormac. Now DSIP's team is well aware of the requirements. About the current system, I hope TMS will cooperate with us to achieve our common goal.

Cevin-san(TMS): Sure! You know we have to take care of many security features while coding. TMS is well aware of this with previous project experience. But it will not be discussed in the requirement phase. How will you take care?

Vinay-san(DSIP): Dormac/DSIP has already prepared coding guidelines and security guidelines are also added into it. This is an added improvement point for Kv3 project. Previously, the security guidelines were not defined anywhere. We have added many

additional security guidelines in the coding guideline. DSIP follows this. We hope you and your team also follows the same.

This was new information to Cevin-san and he asked the same to Sameer-san.

Sameer-san(TMS): Yes. There is new coding guideline, but we did not check the coding guideline yet.

Ken-san(Dormac): Please request TMS's team to follow the coding guideline, because in the last project, during security certification process we got many review comments.

Sameer-san(TMS): We will take care.

After some more discussions, the meeting came to an end.

Many such heated discussions happened during the execution of the project. But Dormac and DSIP together could manage TMS schedule. DSIP modified the OS with new memory design and ported on new HW. DSIP executed previous project acceptance testing with new HW and almost all cases were passed. By the end of **November, 2011** DSIP's OS was ready with new HW with lots of hard work. Only **2 more weeks** left for **1st milestone release** to customer.

At the same time TMS completed their functional support in old HW with old memory design and unit testing. It was time to integrate TMS's upper layer and DSIP's OS. But at this point, TMS said that they don't want to use DSIP's OS.

Cevin-san said "We will integrate only the workaround required for HW issues from DSIP's OS. Because in the background, TMS also managed to do new HW related modifications in old OS, and we are very comfortable with that." If we take DSIP's OS, then the issues must be analyzed by DSIP first even in the upper layer. Nobody expected such a sudden twist from TMS. DSIP was really unhappy with TMS's sudden move because DSIP's team had put a lot of effort to bring out things till this stage and finally all their effort were going to vain. Even Dormac was unhappy with this move from TMS because the Acceptance testing was completed with DSIP's OS and the OS was very stable with new HW, but TMS's OS is not yet tested. But Dormac's management was helpless, because there was total dependency with TMS and they decided to follow TMS proposal. TMS completed the integration with DSIP's workaround for HW issues and started functional/system testing with new HW. But even the basic functionalities were not working with TMS SW and their OS on new HW.

It was **10th December, 2011**, only 4 more days were left for the **1st milestone release** to customer, but even basic functionalities was not working. The situation was very critical and Ken-san came to offshore and arranged an urgent meeting with TMS and DSIP.

The Offshore Integration meeting for Kv3 project (10th Dec 2011)

Participants

Dormac-VSBU	DSIP	TMS
Ken-san	Ragu-san, Vinay-san	Cevin-san, Sameer-san

Ken-san(Dormac): Cevin-san, please explain how you are going to handle the current situation? There are hardly 4 days left for the 1st milestone release to customer.

Cevin-san(TMS): Currently, our engineers are debugging and we found some issues in memory side.

Vinay-san(DSIP): As I indicated in the 1st review meeting, the old memory design was not flexible to add even small changes and it will affect the overall SW architecture. And for supporting new functionalities many parameters need to be added across the memory layers. Even small mistakes will create lot of issues. I feel it is better to take new memory design from DSIP.

Sameer-san(TMS): At this point it is impossible, because upper layer is tightly coupled with our old memory design; even test environment is tightly coupled.

Ken-san(Dormac): We have already tested acceptance testing with DSIP's OS and new HW. If TMS can integrate DSIP's OS it will be better.

Cevin-san(TMS): TMS already unit tested new functionality with old OS and old HW and there was no problem. So it is better to continue our debugging without wasting time for further integration.

Ken-san(Dormac): Do you remember, the previous project Kv2 took 1 year for testing and maturity. What is the guarantee that the same situation will not happen?

Cevin-san(TMS): The situation is different; there were HW issues with previous project and it took time to understand. But here HW issues are already found and TMS has already integrated workaround from DSIP.

Ken-san(Dormac): In the previous project, only 5% issues were because of HW. All others were SW issues. Sameer-san how much time will it take for integrating DSIP's OS?

Sameer-san(TMS): It will take another 3 weeks for integration, after that half a month for TMS's test environment modification. But if we integrate DSIP's OS still there is no guarantee that there won't be any issues.

Ken-san(Dormac): DSIP's OS is already tested with Dormac's acceptance testing, and we didn't find any issues. But you said it will take more than 1 month for integration which will make a huge impact on customer release and we cannot accept it. It is impossible to take a decision now; we will internally discuss and get back.

Recollecting till here, back in the Cafeteria, amidst the interesting conversation between Mr. Ragu and his colleague, suddenly Ragu's phone rang. After a short talk, he ends the call and continues - "The situation was tense. With just a 4 days left for the release,

confusions were on the peak with a blind road ahead. Nobody had any idea on how to proceed in the current situation.” There were few seconds of silence and gazing at his phone, Ragu added that he would like to make a move as he needs to send few reports before heading for home.

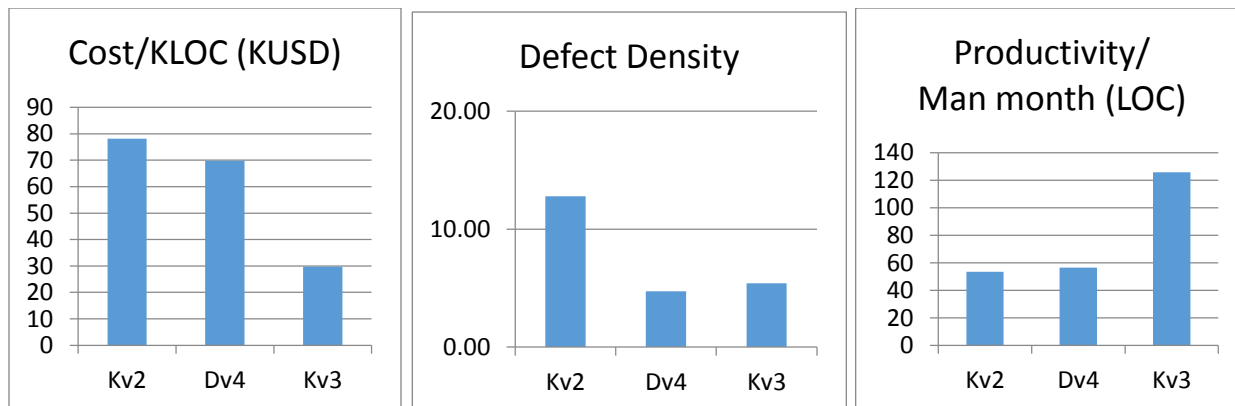
As a professional who was, being introduced to the field of third party management, Prem thought for a while “DSIP management experience with TMS has got tons of knowledge to offer. I must definitely continue on this topic some other day.”

****** End of the Case Study ******

Appendix – A (Abbreviations and Definitions)

Sl.No.	Abbreviations	Definitions
1	91J	Old HW design for VSS
2	91K	Temporary HW design for Kv3 project
3	9QM	Original HW design for Kv3 project
4	HW	Hardware
5	KLOC	Kilo Lines of Code
6	KUSD	Kilo US Dollar
7	LOC	Lines of Code
8	LSI	Large-scale Integration
9	MPP	Microsoft Project Plan
10	OS	Operating System
11	PGR	Static analysis tool used in Dormac Corp.
12	QAC	Static analysis tool used in DSIP
13	RAM	Random Access Memory
14	VSS	Video Surveillance System
15	WBS	Work Breakdown Structure

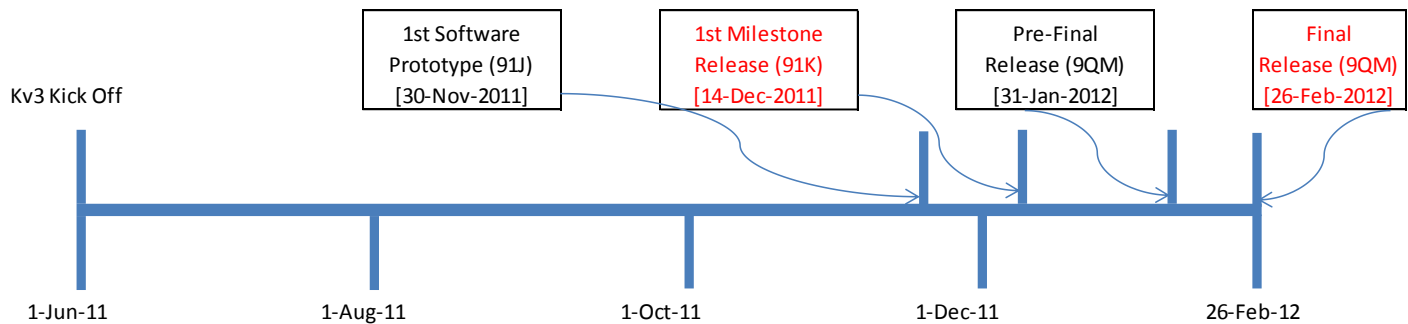
Appendix – B (Comparison between 3 projects)



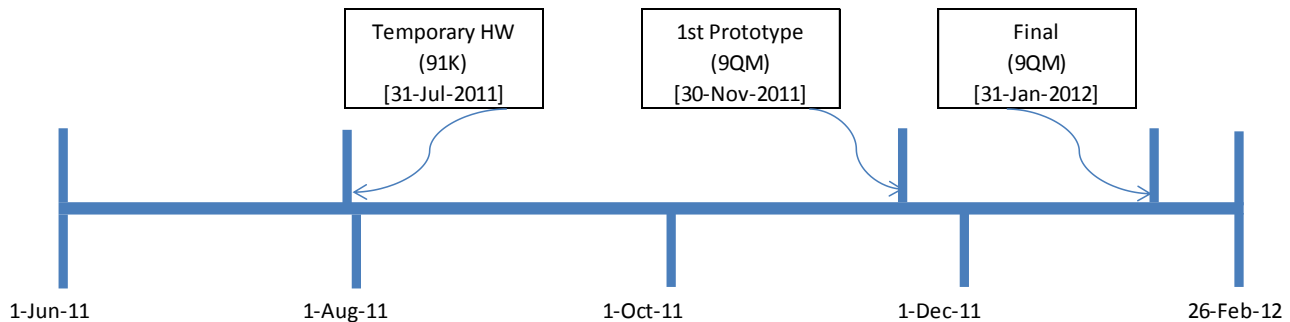
Project	Dev By	LOC	KLOC	Total Defects	Defect Density	Offshore Effort(PM)	Cost/KLOC (KUSD)	Productivity/ Man month (LOC)
Kv2	TMS	102595	102.60	1312	12.79	1720	78	53
Dv4	TMS	22586	22.59	107	4.74	338	70	56
Kv3	TMS (DSIP)	106558	106.56	576	5.41	680	30	126

Appendix – C (Kv3 Project Timeline)

Software Release Plan



Hardware Release Plan



Appendix – D (DSIP Introduction meeting)

The initial meeting for Kv3 project (18th May 2011)

Participants

Dormac-VSBU	DSIP	TMS
Yutaka-san, Ken-san	Ragu-san, Vinay-san	Cevin-san, Sameer-san

Yutaka-san(Dormac): Good Morning! Everyone! Thank you so much for your continuous support to Dormac Corp. and our business. With your support and contribution, we have completed 2 of our flagship products.

Cevin-san(TMS): We are very happy that we got the chance to be a part of Dormac Corp.'s success. We will continue to support as usual.

Yutaka-san(Dormac): Dormac Corp. got the new requirement from our customer for their next generation VSS. The final release is expected by customer is on 24th Feb 2012 (Refer **Appendix-C** for project timeline) which leaves us with

only less than 10 months for the whole development. The major challenge is, we cannot use the previous product hardware. We have to choose new high specification HW which is not available in market. The HW design also needs to be started in parallel. Cevin-san, what is your opinion?

Cevin-san(TMS): Congratulations! It's a matter of absolute pleasure that we are getting another opportunity to work together. But at the same time, I can see many risks involved in the new project. The development of a previous similar project that we worked on, took almost 2 years to get completed. Changing the HW would be a great risk. As you know, we had faced multiple issues with the previous HW, because of which software stability got delayed.

Yutaka-san(Dormac): Yes, I agree with you that we have faced some issues with HW. Dormac Corp. already did a detailed analysis of past project execution process and we would like to improve our development process both in Dormac Corp. and TMS. In this meeting I would like to introduce DSIP, Dormac's counterpart in India. DSIP excels with a long history of experience working with embedded software domain and their support will definitely help us to find out HW issues quickly. Ragu-san and Vinay-san from DSIP have joined today's meeting.

Ragu-san(DSIP): Good Morning! My name is Ragu, Sr. Project Manager, Semiconductor division. I have 15+ years of experience in Semiconductor, Embedded software design. I am happy to support Dormac, Japan and TMS in the current situation.

Vinay-san(DSIP): Very Good Morning! My name is Vinay, Project Leader, Semiconductor division. I have 10+ years of work experience in embedded software domain. I have worked in service companies and product companies during my professional career. It would be a pleasure to extend a hand of support to Dormac, Japan and TMS in the current situation.

With a puzzled face and lots of suspicion inside, Cevin San probably smells a rat.

Cevin-san(TMS): Thank you for introducing DSIP. But I am wondering how DSIP can help us because they don't have any domain expertise in this domain.

Ken-san(Dormac): Vinay-san already had undergone training in Japan for 4 months in this domain. Vinay-san is very quick in learning and we feel Vinay-san is equipped with enough knowledge in VSS domain.

Cevin-san(TMS): Could you please explain how DSIP is going to support us in the new project?

There was an eagerness among the team to know how DSIP, with no previous domain knowledge was going to assist TMS in their new venture.

Yutaka-san(Dormac): As I explained, we have to use new HW for our new product which requires more memory space (RAM and Flash) and added security. Currently we are discussing the new HW design and it will take 3months to get the 1st prototype (91K) and 7th month, we are expecting the final one (9QM). TMS can use previous product HW (91J) for functional development and final testing can be done in new HW (9QM). DSIP can port the existing product into 91K and find out the HW issues in the early stage and stabilize both HW and SW. After that DSIP can integrate the final software on new LSI (9QM) (Refer **Appendix-C** for project timeline).

Cevin-san(TMS): I am afraid but this sounds very risky. This reminds me of our first project (Kv2), which took almost 1 year to stabilize the software with new HW, because of some HW issues. This time we are getting only 2.5months to complete both HW and SW testing which is nearly an impossible task. This makes me think as to why we are going with new design of HW in such a critical situation?

Yutaka-san(Dormac): The HW used in Video Surveillance is something unique and there are very few players in the market. None of the existing products match our requirements and currently, our best option is to go with the new HW design.

Cevin-san(TMS): We understood the current situation but we need internal discussions and will let you know about our decision in the next meeting.

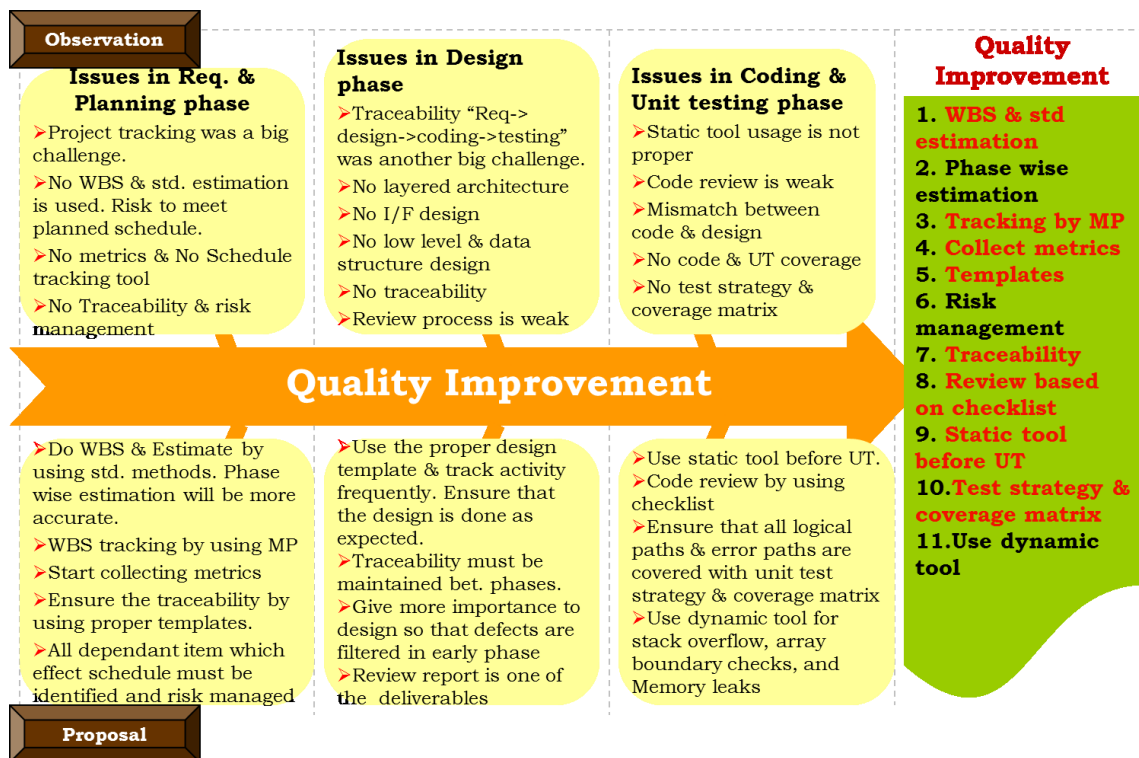
Yutaka-san(Dormac): Okay. We will meet again after 2 days.

Cevin-san(TMS): Okay. Thank you so much. See you in the next meeting.

Appendix – E (Quality Improvement Proposal by DSIP)

Mr. Vinay indicated that “TMS is very big company and may not listen to DSIP until and unless there is agreement between DSIP and TMS.” And proposed following improvement points.

- a. **Proposal-1:** The current outsourcing structure “Dormac -> TMS” should be changed to “Dormac -> DSIP -> TMS” if possible. So that DSIP can manage TMS in better way.
- b. **Proposal-2:** The improvement process as per the below figure can be added in the agreement



Mr. Ken agreed on all the improvement points and suggested that we need to improve TMS step by step. He also agreed and said that “we will arrange a quick meeting with TMS to discuss these improvement points”.

The Improvement meeting for Kv3 project (25th May 2011)

Participants

Dormac-VSBU	DSIP	TMS
Ken-san	Vinay-san	Cevin-san, Sameer-san

Ken-san(Dormac): Good Morning! This is Ken from Dormac-VSBU.

Cevin-san(TMS): Very Good Morning! Ken-san.

Vinay-san(DSIP): Good Morning! Ken-san, Good Morning! Sameer-san.

Ken-san(Dormac): Thank you for joining the meeting. Sameer-san, we have some improvement suggestions based on previous project analysis and current critical schedule of Kv3.

Sameer-san(TMS): Of course! We can discuss the improvement points.

Ken-san(Dormac): Recently Dormac export control is very strict, and sending the development tools to offshore is time consuming task. In the current Kv3 situation, we have to ship many tools to offshore because of new HW. Sending the tools directly to TMS required a lot of export control procedures. But DSIP is counter part of Dormac Corp. we can export the tools easily to DSIP and DSIP can send it to TMS. For this, we need a contract between DSIP and TMS.

Cevin-san(TMS): No problem. We can sign the agreement with DSIP.

Ken-san(Dormac): Thank you for your understanding! When we send the tools to DSIP, we have to give project outsource details to the export control division. The following process is required.

1. Kv3 project will be outsourced to TMS through DSIP.
2. TMS payment will be through DSIP.

Cevin-san and Sameer-san were not so happy with the proposal, but they didn't have any other choice.

Cevin-san(TMS): If it is required for Kv3 project, we agree your proposal.

Ken-san(Dormac): Thank you very much. The next improvement point is "TMS documents are very rich and written in English; it is taking too much time for Japanese engineers to review them". In Kv3 situation, we have to reduce this time. Vinay-san can visit TMS office twice in a week and confirm the documents before releasing them to Dormac.

Sameer-san(TMS): Vinay-san weekly visits will reduce TMS productivity because we need to allocate the engineer for Vinay-san's face to face meeting.

Vinay-san(DSIP): I have analyzed past project documentations and understood that TMS documents/templates figures/tables can be improved. Usually Japanese Engineers can understand figure/table based documents easily. So, we can reduce the contents and focus only on important points. Dormac/DSIP will prepare and share improved templates for filling the contents easily and in the expected way so that the effort can be reduced. During my visit to TMS, I will just confirm if TMS is filling the contents the way we expected or not. For that I need only Sameer-san's support. Engineer's support may not be required.

Sameer-san(TMS): Ok. Understood. Based on the improved templates we will discuss this later. I think it would be better to make Vinay-san meeting weekly once, because even I will be busy and I cannot spend much time with Vinay-san twice in a week.

Ken-san(Dormac): I understood. Weekly once is Ok. But when required, we will request for additional meetings with Vinay-san. Since documents are written in English, we feel DSIP team can review the documents much faster than Japanese Engineers. For this reason DSIP team will join in every technical meeting.

Sameer-san(TMS): Ok. That sounds fine.

Ken-san(Dormac): We feel it is better to do static analysis on TMS's source code. Our suggestion is that TMS should apply static analysis before unit testing, this will be more effective. Dormac had PGR tool for static analysis and we will apply that in final source code. Do you have any static analysis tool?

Sameer-san(TMS): Applying static analysis for each module at unit level needs huge effort. Since Kv3 schedule is very tight, it is better to apply at final source code at Dormac.

Vinay-san(DSIP): Sameer-san, I have analyzed previous project defect report and found 20% of defects could have been found by static analysis. The previous project took 1 year for testing and maturity. If TMS could have captured 20% defects through static analysis, you could have saved almost 192 Person months effort (consider 80 persons working on the project). DSIP used to apply QAC (static analysis tool) at unit level by the module owner. This will avoid the defects across modules because of the wrong function definitions. Average effort required for this is 4 hrs per module. If we consider 10 modules and 10 releases, then average effort required for Static analysis is 400 hrs/2.5 Person Months. So we recommend static analysis at unit level by TMS.

Sameer-san(TMS): We don't have PGR or QAC tool.

Ken-san(Dormac): I cannot believe. TMS, which is one of the biggest software development companies, they do not have any static analysis tool.

Cevin-san(TMS): I think what Sameer-san meant is that in his team, they don't have the tool. But TMS's other division is using internal static analysis tool called "Ascent", the rules are almost same as QAC.

Sameer-san(TMS): Yes, Cevin-san is correct and we will use the Ascent tool for static analysis.

Ken-san(Dormac): Thank you very much! Next is "TMS prepares feature based plan in agile project". Sometimes during the last moment, that we get update from TMS that some features cannot be supported in the release because of the dependency with other non-implemented features or review/testing not being complete, etc. In the current critical situation, we recommend using Microsoft project plan (MPP).

Sameer-san(TMS): Excel based plan is easy to manage and we used to it, but what is the advantage of using MPP over excel based plan?

Vinay-san(DSIP): The dependency can be shown easily in MPP (feature dependency, process dependency, resource dependency, etc) by using work break down structure. Critical path can be identified easily and we can put extra care in critical path tasks. The % of delay can easily be understood, we can estimate the impact on final schedule and risk

mitigation plan can be applied when the delay occurs in critical path. In Kv3's critical situation, we should avoid/take care even the smallest delay in the project critical path.

Sameer-san(TMS): I understood! But we don't have experience using MPP.

Vinay-san(DSIP): DSIP can share sample MPP, and help you to prepare MPP for Kv3.

Sameer-san(TMS): Ok.

Cevin-san(TMS): I feel we are applying many quality processes. Since there are many new features in Kv3 we need more time to spend in requirement analysis than in process. Otherwise we cannot meet customer's schedule and will lose the customer. In the last project, many issues happened because of unclear requirements/requirement miss.

Vinay-san(DSIP): As per the last project RCA, only 10% defects are because of unclear requirements/requirement miss. As per my understanding some of these happened because of misunderstanding of standard specifications in the requirement analysis. If we follow Traceability matrix, we can avoid such requirement miss. As there are 3 parties involved in analyzing the requirements this time, hope it will improve.

Ken-san(Dormac): Currently, that's all from our side. Thank you so much for accepting our improvement suggestions.