

EU / Japan Pilot Project

Report

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1. Personal Data

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2. Executive Summary

I started my studying abroad on September 10th 2004. My research was about configuration system of a clock company. I did process analysis of the company, I did product analysis of the clock, I did Object Oriented Analysis, and I made a configuration system. About my student life, first, I could not enjoy my life in Denmark. Because I could not participate in introduction week of DTU, I was unknown about DTU and I could have few friends. But I made friends little by little, I improved my English little by little, and I enjoyed my life little by little. Finally, I can say that I totally enjoyed my exchange student life in Denmark. And with that mind, I left Denmark on February 9th 2005.

3. Travel Schedule

10/9/2004 - 10/2/2005

4. Research

The purpose of my research is to make a configuration system for a clock company.

Present process of the company has some problems of lead time and quality. Therefore, process analysis must be done to optimize the process. Figure 1 shows present procedure. As it

can be seen, there are many getting backs and it makes mistakes and long lead time.

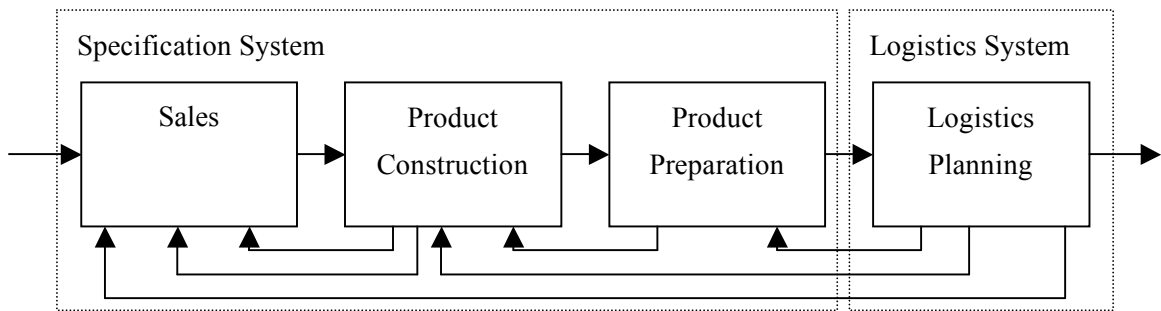


Figure 1. Flow chart of present procedure

So, it is necessary to get rid of these getting backs doing process analysis. Figure 2 shows desired procedure. Because the configuration system has every data of current process, getting back can be eliminated. It allows short lead time and few mistakes.

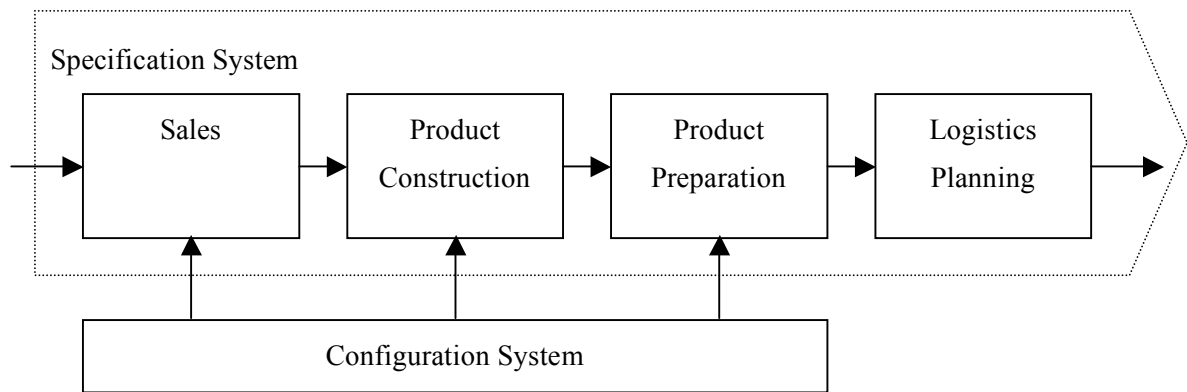


Figure 2. Flow chart of desired procedure

Table 1 shows gap analysis, which illustrates how much improvements can be expected with introducing a configuration system.

Table 1. Gap analysis

	Goal	Present	Gap
Lead time for quotation	1 day	7 days	6 days
Lead time for delivery	1-2 weeks	3-4 weeks	2 weeks
Mistakes in quotations	0%	25%	25%
Mistakes in list of parts and operational lists	0%	20%	20%

After finishing the process analysis, product analysis is done to specify all of the variants. The result of product analysis is illustrated in Figure 4 as Program Variant Master (PVM).

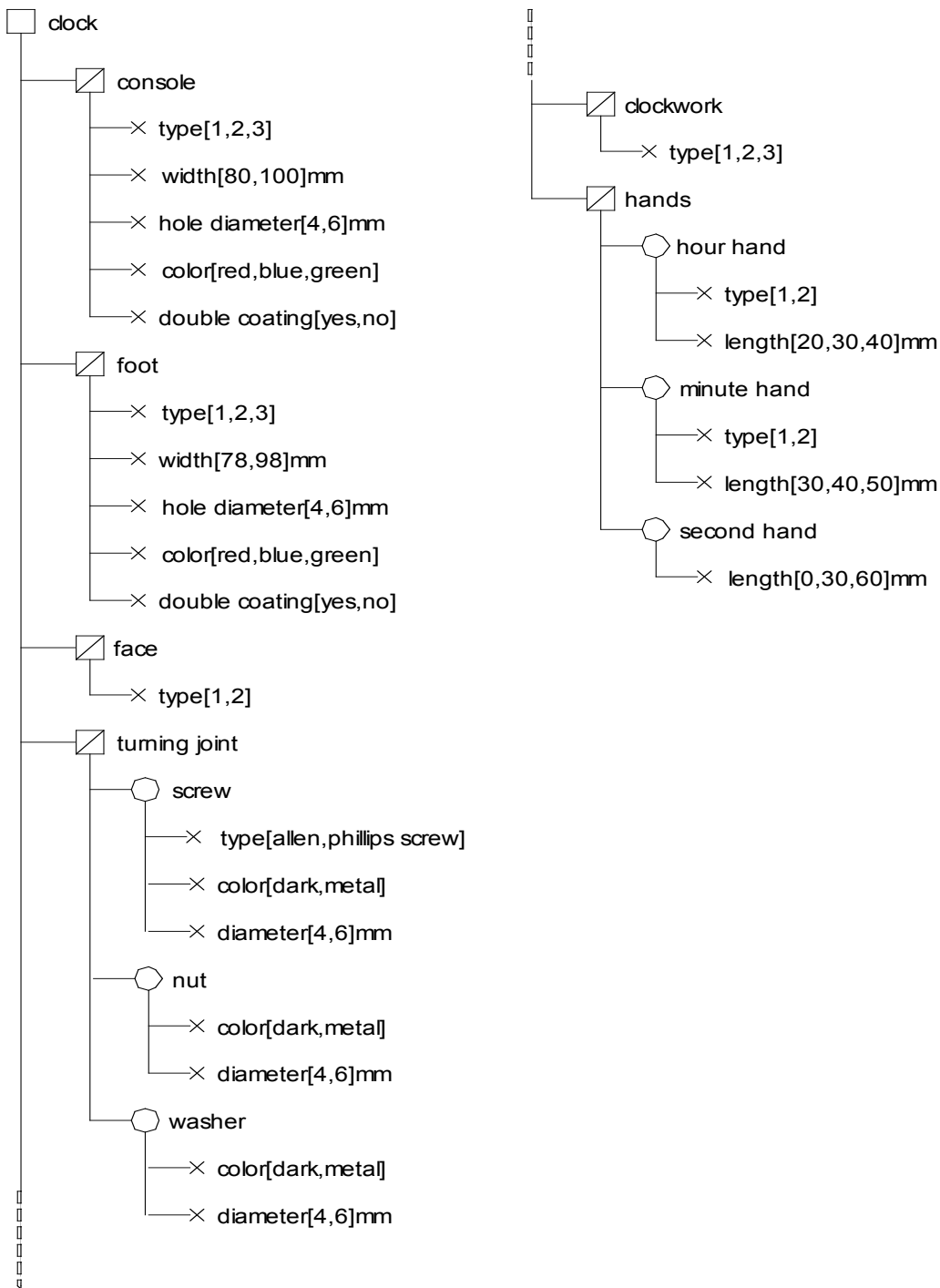


Figure 4. Program Variant Master

Then, object oriented analysis is done. First, class-diagram is made to define classes and relationships of classes. Figure 3 shows class-diagram of the configuration system. There are 6 classes corresponding to 6 subparts which can be seen in PVM. Console, face, clockwork and hands can be seen as components of a big console. In this case, this big console class is named “_Console” to separate from “Console” class which is a class of small console. The

configuration system also needs classes of displaying operations card and cost list. Inheriting a class of operations card, a class which can calculate time of operation is made, and inheriting a class of cost list, a class which can calculate price of material is made.

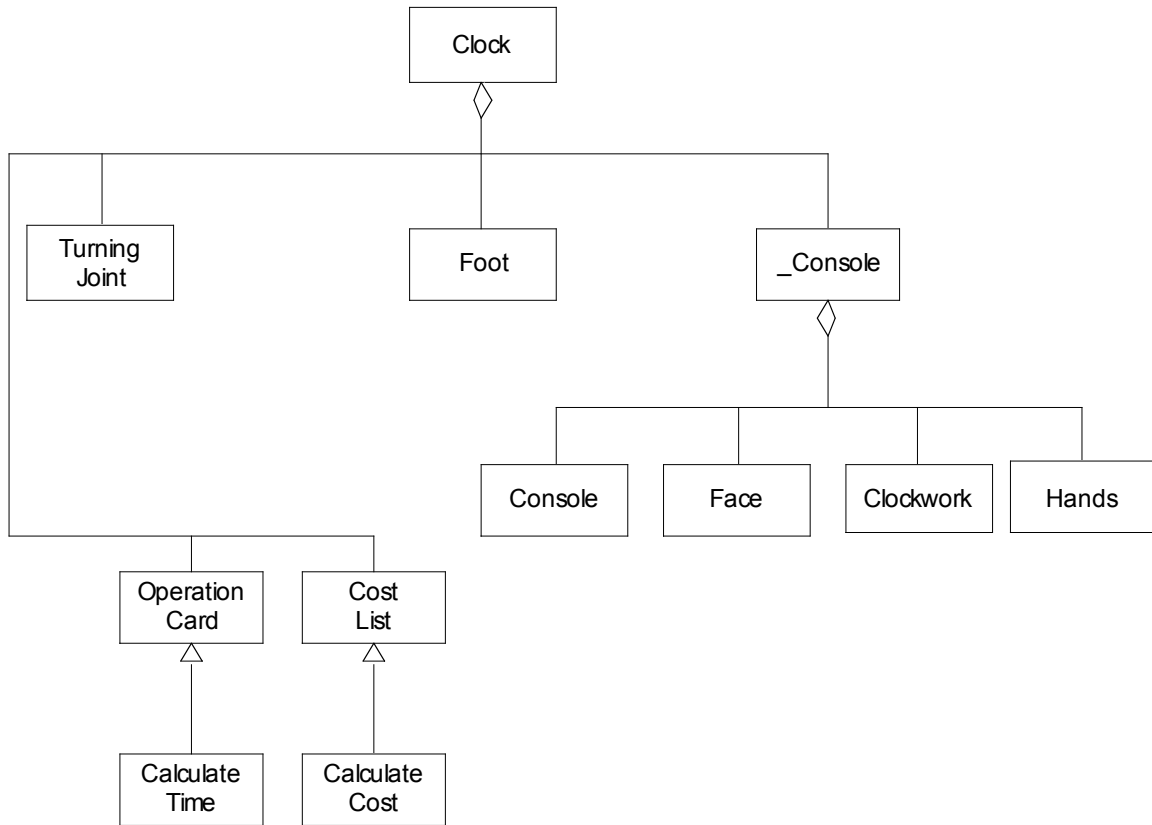


Figure 3. Class-diagram of the configuration system

To specify each classes, CRC(classes, responsibilities, collaboration) Cards are made. The number of CRC Cards is same as the number of classes which can be seen in Class-diagram above. In a CRC Card, there are descriptions like class name, responsibilities, aggregation, generalization, sketch, calculations, definition, etc. This must be made regarding to both of Program Variant Master and Class-diagram.

Using software *iBaan E-Configuration*, the configuration system is made. Because all of data is described in CRC Card, what the programmer has to do is just input the data into the software. The software checks errors, and if there are no incoherencies, a configuration system is created automatically as JAVA program.

Finally, using the same software, user interface is designed so as to user can use the configuration system easily. Figure 4 is a screen shot of created configuration system. The user interface page has 2 frames, Menu page and Contents page. Upper half of figure 4 is Menu page and the other half is Contents page. As figure 4 shows, there are some buttons in Menu page, such as “Console”, “Clockwork”, etc, and if a user pushes the button, corresponding page

appears in Contents page.

Clock

[Agg. Foot](#) [Agg. Console](#) [Agg. Joint](#)

Total Price: ✓ 76.95

Total Time: ✓ 20.60

Console Clockwork Hands Face

Foot Joint Op. List Cost List

Console

Console Type: ✓ 1

Width: ✓ 80.00

Hole Diameter: ✓ 4.00

Color: ✓ red

Painting: ✓ Front

Figure 4. User interface of the configuration system

Because the contents are categorized following to the Class-diagram, user can set variants easily. And if all the contents are displayed in same page, it will be very complicated interface, so this structure makes the interface simple. In Menu page, there are 2 windows to display total price and total time. With these windows, user can see total price and total time immediately after setting all variants.

Conclusion of this research is thus;

- 1) Doing process analysis, usability of the configuration system was shown. It is obvious that the process after implementing the configuration system is better seeing flow chart shown in figure 1 and figure 2.
- 2) Configuration system for clock company was made. To make the system, it starts with product analysis making PVM, and it also contains Class-diagram and user interface as object oriented modeling.

5. Exchange student life

Introduction week of DTU was took place in August, so I could not join that. It was very big

problem for me because I did not know everything about DTU and Denmark, and because I had no friends when I came to Denmark (Introduction week is good chance to make friends). Also I was not good at speaking and hearing English, and it makes my student life very hard. So, actually, I could not enjoy my exchange student life during first 1 month. But I improved myself little by little. I made friends, I learned English and I got used to living in Denmark. Now I can say that to make friends is the best way to enjoy student life. If I have many friends, I can have many chances to speak English, I can have much information and I can learn various way of thinking. DTU has parties for international students every week, and it allowed me to make friends easily. Also, because I lived in private house with other 2 guys, I could make friends with them. I went to Copenhagen every weekend with them to enjoy concerts and drinking beers and etc. As such, I made friends, and my exchange student life turned to be very fun.

After I started to enjoy my life, I joined basketball team which is official team of DTU. Practice was 2 times a week, and I joined almost all practice. Sometimes, we had a match against another team. Because basketball is not so popular as football in Europe, team mates were not so many, but it was very nice team. Playing basketball in English is also good experience for me. Because I am a small guy, coach of the team did not accept me and did not allow me to join the match. But I continued to join practice, and finally the coach accepted me and I could become starting member of the team. I was very happy with it.

Also I started swimming once a week. Owner of my house drove me and other 2 house mates to the pool every Friday, and we enjoyed swimming. After swimming, we took a sauna just to relax ourselves.

So, my usual life was going to university to study around daytime, doing sports in the night and going to Copenhagen at the weekend.

During the Christmas vacation, I could travel around Eastern Europe. It was also very good experience for me, and I think I will have not so many chances to do like this in the future.

Then, I will describe about my research. Actually I had studied about Object Oriented, but the field was almost new for me. So I read many theses about the fields. To read English theses was very hard for me in the beginning, but I got used to it little by little.

Now, I will mention about DTU. DTU has huge campus and it is not easy to move from one building to another building without bicycle. (Actually, I did not have bicycle.) Big buffet is located in 101 building, and many students go there to have a lunch. In same building, there is a bar which is opened every week day. In the bar, international students party is took place every Tuesday, and also big party is took place every Friday. It made me easy to make friends. In some building, there are rooms called "Data Bar" in which we can use computer connected to internet. With student card of DTU, Data Bar is available for 24 hours. DTU has a huge ground to play football or basketball for free, and it has also many gyms where we can play a lot of

inside sports (but it is not for free). In my department building, I had a small room sharing with other 2 Danish guys. There is a nice kitchen in the building. The kitchen provides us free coffee and I often enjoyed coffee break with my friends.

Then, I will mention about Denmark. My first impression of Denmark is that “Denmark is a country of kind people”. Every time when I have some trouble, someone spoke to me saying “Can I help you?”. It seldom occurs in Japan, especially in Tokyo. Also, many of Danish people are very cheerful and most of Danish can speak English fluently. So there was no problem of communication except my English skill.

Copenhagen is very beautiful and lively city. Especially in the weekend, there are many parties, concerts and other events. I went to Copenhagen almost every weekend with my friends, sometimes just for drinking beer and sometimes for joining in the event.

Denmark is expensive country, so I had to cook my dinner almost every night. It was sometimes cumbersome, but because I had never cooked before, it was also a good experiment for me.

Through these exchange student life, I could get a lot of experiences. I could get lifelong friends, I became better of speaking English, I learned different way of thinking, and I learned how to enjoy my life in Europe. And these experiences must be great help for the next 5 month life in Belgium. I may not feel difficulty which I felt at the beginning of Denmark life. And, I hope I can get more and more good experiences through the life in Belgium, too.

6. Suggestions to the Project

As I mentioned above, that the Project does not allow us to start studying abroad from August is big problem. Introduction week is very big event for international student, I think. So, I suggest that the Project should be more flexible about starting day.

7. Summary

Both studying and living in Denmark were totally new for me. So I got lost first period. But I could solve all of these problems by myself. Now I can say that “I can live everywhere”. That kind of vitality is one of the biggest things I obtained through this project. Also, I could understand the fact that I am unknown man about outside of Japan. Because I have lived in Europe, there are many races of people. And of course each of them has different way of thinking. When I was in Japan, I had little chance to talk with foreigners. So this was also good experience for me. Finally, I am sure that next 5 month in Belgium will be also very nice days.