





**Vestbjerg**





Description of the project

**1st semester**

# 1.1 Introduction

This is an introduction to the project that you are going to work on. There are some practical information and a bit of advice for you to discuss in your group.

Attached you will also find a description of the case (appendix no 1), which will be the outset for the computer system which you will design and implement.

# 1.2 Objectives

You will now start on a project period which will last for approximately 3 weeks. The goals of the project are:

1) for you to study the technical terms in depth: the business, analysis, design, and implementation

2) for you to learn to work in groups and solve larger more complex tasks

3) for you to improve both your personal and professional qualifications. That is working with tasks that are not precise defined which demand of you to define the problems yourself. Personal qualifications are also about adequate approach, strategic planning, looking for know-how, conclude on behalf of your own research, communication with the outside world, etc.

The result of the project is a report which will include preliminary investigation also called feasibility study, analysis, design and implementation.

The supervisors have planned the project in a way, so that it is a realistic time schedule that gives you a chance to work with the most important theories during the project period.

# 1.3 Organisation

You will work in groups with this project.

There will be a supervisor (one of your lectures) available in the classroom almost during the whole project period. If no one is present just send a mail to one of us, if you needs help.

The description of the case (appendix no 1) will undoubtedly raise some questions. For answering these questions our service oriented user **Lise** is available. Questions should be asked by email lkl@ucn.dk.. LKL will also be available to test mock-ups etc.

In case of meetings with knol, guan, lkl or reviews with your supervisor the group is responsible for taking minutes.

# 1.4 Evaluation

The supervisor will make reviews with the groups during the projet period.

The project will be evaluated in the first week of February. Schedule and exact date follows medio

Janaury 2016. It will be in form of a trial examination. Participation is mandatory.

# 1.5 Advice

1. Remember that it is a learning process.

The most important issue is that you learn a lot from doing the project, and not the result itself.

2. Your efforts should result in a report.

Make sure that the form is in order as well with page numbers indexes etc. It’s not enough to hand in a pile of papers hold together with a paper clip. Please note that charts, forms, programmes, etc. must be with explanations.

Remember to have a consistent thread running through your report, so that the reader can follow you all the way. In order to obtain this, it is important that you carefully consider the contents of the report. All contents should be understood by all group members. Furthermore, each section should start with stating the purpose of the section, a short description of the contents and the section seen in relation to the rest of the report. In the same way each section should end with a conclusion.

3. Define the problem before you try to solve it!!

In this project you will not be given a minor and well-defined assignment. Therefore a significant part of the work consists in determining what the problems are. During the preliminary investigation and analysis, problem definition is a considerable part of the assignment.

4. Take care that you are conscious of the roles and behaviour that you have during your group work. Maybe tone down your own highest colour/type and respect the perspectives that the other types/ colours have.

During group work, you will need to delegate tasks to the different members of the group. This can be necessary and can help you be more productive because one takes advantage of the strength from each member of the group. But it is also important that each group member understand and is able to defend the whole project to the examination.

# 1.6 Time schedule

The project is divided into two periods: Preliminary investigation and other software engineering activities.

Preliminary investigation (approx. day 1-4)

1. On the first day you will have to make a time schedule for the entire project.

The preliminary investigation must consist of an analysis of the company, including business requirements for a new system. Furthermore, there must be a first delimitation with a statement of the most significant problems and drafts for information system in order to help with these problems. Furthermore there must be an estimation of the consequences of the proposed information system.

Inception and elaboration

During the rest of the project period there will be three iterations.

* First iteration, where you must create a system definition or vision, requirement specification (can be supported by a simple prototype), and priority of use-cases.
* Second iteration: Here the use case with highest priority is to be designed and implemented. Remember to reconsider requirement specification during the iteration
* Third iteration: Here the next use-cases (in priority order) are to be designed and implemented. Still remember to reconsider requirement specification during the iteration. Make your priorities and the scope of the iteration based on how much work you actually are able to deliver in this last iteration.

# 1. 7 Hand in

On the 24th of December 2016 at 15:00 each and every one of you have to upload to wiseflow.

* Written documentation (Maximum is 30 pages) **as a Report** in form of a **PDF-file** including following information:
  + All diagrams
  + Repository path
  + Revision number
* A zipped file of your project/program
* **The Report** and zipped file of your **Code** is to be
  + uploaded to Wiseflow (each and every student must upload!)
* See the “ReportWritingGuide” on Canvas

In the report you must include:

* a short users manual for the implemented system
* documentation of the preliminary investigation
* documentation of all the iterations
* management of versions. Naming of the project most follow the form:
  + kraka.ucn.dk/svn/dmaX0916\_1Sem\_project\_Y , where X is the class letter and Y is your group number.
* A chapter where you describe your group process according to the guide from Business

## Tools:

BlueJ (code), Tortoise (SVN)

# Appendix no. 1:

**Case for 1st semester’s project**

**Vestbjerg Byggecenter A/S**

**The company:**

The company was founded in 1987 by Anders Olesen and was first called Vestbjerg Byggemarked. In 2001, his sons, Thomas and Casper, joined the management. At the same time the company was converted into a limited liability company and changed its name to Vestbjerg Byggecenter A/S. The company’s share capital is a total of DKK 5 million.

There are 33 employees. The company is distributed on two different addresses as the DIY (do it yourself) centre is divided into two departments: timber merchant department and DIY department.

Anders Olesen is the managing director and has his office at the timber department. The chief executive for the timber department is Casper Olesen. At the DIY centre, Thomas Olesen is the chief executive. There is a manager for the kitchen and bathroom department, and a salesman who covers both departments and is out on trade visits. There is also a deputy manager for the rest of the DIY centre. In addition to this there are 8 employees at the DIY centre.

There are 8 employees at the timber department, and they service all customers in that department. Casper Olesen is their boss. At the office there are 4 employees who are in charge of registration of bookkeeping vouchers, calculation of wages, and debit-credit operation. The staffs are on fixed salary but there should be made up sales return in order to see how much each of the employees has sold for. The norm for each sale assistant is to sell for DKK 2.5 million plus VAT.

The reason for the company to contact the consulting firm is because the company has an old UNIX system which does not live up to the demands of information handling in company with a turnover of approx. DKK 69 million per year.

**Products**

All in all there are a total of 100,000 item numbers within the trade. But Vestbjerg Byggecenter stock approx. 28,000 item numbers divided into 100 different categories of goods. The company is dealing with different prices namely recommended retail price, trade allowance and cost price. The selling price is determined to price a piece or in bulk eg. whole packages or pallets of goods. Currently, the company does not use location codes so they do not know where the product is. It could be at the DIY centre or in the timber department, or in both places. The management wants to adopt a new system which will state where the products are, and how many they have in stock.

The company also lease out carpet cleaners, grinding machines, and other larger tools. All in all there are approximately 30 units to keep an eye on. Up to now a manual system has been used but with the new system one should be able to control leasing and product recall of leasing machines.

Normally stock control is attached to a single item number but in the kitchen and bathroom department a specific kitchen should be able to be displayed from a number of items which form part of the delivery of the kitchen.

They also want to print sale tags in order to display them on different types of shelves, and print price labels.

**The Leaders**

Anders Olesen is a bit old fashion. He started the company and built it up from the bottom and he knows how to run the company. But he also knows that the managing task can’t be executed like in the good old days. Therefore he has delegated a lot of responsibility to his sons and he also involves some of the other leaders. He does his best to motivate the people he has in his responsibility area that means the leaders and office function. In the office department the members off staff has a high degree of responsibility and freedom, because it is not his primary area of interest and knowledge. He is seen a lot around in the company, knows all the employees and has a good relationship with them all. He expects that the employees are hardworking and positive, especially towards the customers, but also towards colleagues and management. If he shouldn’t be satisfied with an employee’s effort and attitude he will give categorical feedback. If it doesn’t help he is not afraid of sacking the person. It happens very rarely and most of the employees have been in the company for many years.

Because of he’s age and education (Business School) Thomas Olesen is more conscious about how he treats the members of staff. He has gone through a part-time leadership education at UCN T&B. He cares about that every employee thrives in the company. He has yearly interviews with the employees to make sure the employees are appreciated for what they are doing and give them possibilities for new challenging tasks. Thomas is chairman in the staff association and does a lot to create a good atmosphere in the company. He arranges courses and other things eg. indoor football, bowling, parties etc. Sometimes spouses are invited as well.

Casper Olesen has a more practical education in building markets and timber yards. He has supplemented this education through a part-time leadership education at UCN T&B. In his department he acts very much as Thomas but is maybe a bit more detailed and controlling in his leadership style because of his practical knowledge of the industry. He very much wants to help he’s employees to solve their task as good as possible.

**Customers**

The company has approx 1,000 regular customers who have an account at the DIY centre, and they are divided into 22 groups with different terms of payment and discount. Furthermore some customers can obtain a special agreement when placing large orders at the DIY centre. The sales from the DIY centre should proceed by using a bar code reader in order to improve the inventory control in the company. The delivery time from stock is normally 24 hours but delivery is also depending on the terms of delivery from the contractor. They also have to check that a customer does not exceed a discount of e.g. 20% in total by obtaining both craftsman discount, quantity discount plus pick-up discount.

**Plans for the future**

The management has plans about expansion as to customers and products for the coming year. The management has also discussed the possibility of using a computer system in order to secure a continued competitive power of the firm and in consequence of this gain a better profitability.

**Systems**

The company uses an older UNIX system where they register all sales. Four terminals are used for registration, and five computers are particularly used for word processing and price calculations on spreadsheet. They are also used for the bookkeeping.

**The company’s request for a new system**

All members of the staff should be able to use the new system in order to register new customers, products and information about contractors. However, it is the management that will set the price and discounts.

The management would like to have a system so that they can make sales statistics over the customers, products and contractors, and also statistics over each co-worker.

The system should enable one to make registration from offer until the product is invoiced, but there should also be opportunity for making offers, place an order, confirmation of order, dispatch note, delivery note, and invoice.

If possible, registration should be with bar codes to inventory control. Regarding the stock the company wishes to see minimum and maximum stock plus the amount of reorder when stock reaches minimum amount. There should also be a check-up regarding inventory plus check that the ordered amount does not exceed maximum amount for the current product.

The company is in close cooperation with companies in the same trade, and wants a continued development of businesses on the internet also with wholesalers and craftsmen. The company is member of the XL-byg chain. XL-byg has a website through which you can shop at the different companies in the chain. But the system is still not integrated with bookkeeping and stock.

Everybody, both leaders and members of staff are tired of the IT-system they use now. Therefore they probably will have a positive attitude toward a new system. Off course is resistance possible when it comes to the practical issues. Most of the employees have a PC at home and knows windows. But anyway it will probably be a good idea with a user-friendly system.

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| --- | --- | --- | --- | --- |
| **Vestbjerg Byggecenter** |  | **2013** | **2014** | **2015** |
| Turnover |  | 62560 | 68680 | 69050 |
| Variable Cost (Use of goods) |  | 43792 | 47389 | 46954 |
| Sales provison |  | 800 | 810 | 830 |
| **Contribution margin** |  | 17968 | 20480,8 | 21266 |
| **Cash period cost** |  |  |  |  |
| Marketing |  | 2300 | 2400 | 2560 |
| Salary |  | 9690 | 9800 | 10230 |
| Facilities Cost |  | 1200 | 1240 | 1269 |
| Maintanaince |  | 450 | 560 | 600 |
| Cars |  | 560 | 789 | 867 |
| Loss on debtors |  | 345 | 456 | 432 |
| Other costs |  | 345 | 467 | 678 |
| **Cash period cost** |  | 14890 | 15712 | 16636 |
| **Operating margin** |  | 3078 | 4769 | 4630 |
| Depriciation |  | 1201 | 1208 | 1302 |
| **Profit before interest** |  | 1877 | 3561 | 3328 |
| Interest |  | 456 | 543 | 432 |
| **Profit before tax** |  | 1421 | 3018 | 2896 |
| Tax |  | 355 | 754 | 724 |
| **Profit** |  | 1066 | 2263 | 2172 |
|  |  |  |  |  |
| **Assets** | **2012** |  |  |  |
| Fixed assets |  | 11.456 | 12.451 | 12.455 |
| Stock | 12.000 | 11.000 | 12.300 | 12.800 |
| Debtors |  | 3.456 | 4.500 | 4.300 |
| Cash |  | 1.000 | 1200 | 1300 |
| **Assets total** |  | 26.912 | 30.451 | 30.855 |
| **Passiver** |  |  |  |  |
| Share capital |  | 5.000 | 5.000 | 5.000 |
| Reserves |  | 6.700 | 8.020 | 10.200 |
| Long term debt |  | 8.434 | 8.034 | 6.250 |
| Bank overdraft (max.2.000) |  | 490 | 1.690 | 1.399 |
| VAT accrued |  | 565 | 670 | 1.056 |
| Trade creditors |  | 4.900 | 5.030 | 5.000 |
| Other creditors |  | 456 | 1.267 | 1.248 |
| Tax |  | 367 | 740 | 702 |
| **Liabilities** |  | 26.912 | 30.451 | 30.855 |
|  |  |  |  |  |