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Internship report

SIA Latvenergo, IT Project
Manager assistant

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Introduction

I had my internship in Latvia at the company called Latvenergo. I applied for the intern position at Latvenergo by sending them my CV and motivation letter via email. They contacted me back to invite me to an interview and asked me to complete two assignments till the day of the interview. The assignment was to write an instruction of how to make an Google account and the other assignment was to draw a basic diagram for given scenario. We had an open-interview. The participants at the interview were personnel manager and IT project manager and 4 other people who applied for this internship vacancy.

The internship vacancy was for the position "the assistant of the IT project manager" - more specifically for the department of the support systems. In the first day I was introduced with safety rules at the work place and with the important project managing system Jira¹. My IT project manager had already prepared a list of goals and assignments' that I should finish during this internship. I will talk about the assignments in more detail later in this report.

Comapny

Latvenergo in general

Latvenergo is a electric utility company in Latvia that is owned by a state. It is one of the biggest companies in the Baltic States. Latvenergo provides 70%-80% of the Latvia's electricity and it has been nominated as the nr.1 most valuable companies in Latvia for seven years in a row. They own five subsidiary companies Latvijas elektriskie tīkli, Sadales Tīkls, Elektrum Eesti, Elektrum Lietuva and Liepājas Enerģija and four hydroelectric powerplants Pļaviņu HES, Rīgas HES, Ķeguma HES and Aiviekstes HES. The company has more 4000 employees.

Support system department

The department I was working for was Support System Department, which is responsible for all the systems that are needed for everyday work at Latvenergo for its employees and other stakeholders.

Someone of the systems are electronic purchase system, ITT(and other support function) process system, Latvenergo intranet environment, Lotus Notes for email, pass submission and administration system and application processing system. Support System department consists of 14 employees – 1 head of the support system department, 9 developers, 3 IT project managers, 1 system analyst. My IT project manager was in charge of managing projects that concerns electronic purchase system, Latvenergo intranet environment and pass submission and administration system.

¹ About Jira software – <https://www.atlassian.com/software/jira>

Learning Objectives

At my first day of the internship, my IT project manager had made a list of goals and objectives that I should accomplish while working here.

The listed objectives and goals were :

1. Prepare and train how to make a documentation for a specific system, learn how to communicate with developers and business side. (in my case – EIS system) This includes how to make a manual, business process scemas and documentation of systems screenshots.
2. Learn how to find and present a solution for delivery process of IT solutions, software or system.
3. Understand the overall structure of the instructure at Latvenergo
4. Look through the server accounting system, and make an order in it.
5. Programming – frontend – css, sass, html; back-end – php.

Work and Workflow

Clients and Customers

The department of support systems is mainly making web applications for Latvenergo employees. There are many Latvenergo employees that rely on the systems that are made by support system department. Not only these systems speed up the processes for the business side of Latvenergo but it also eases these processes. So it is very crucial for these systems to work properly and meet the needs of the system users. Also it is very important for Latvenergo employees to give solid and nonstop feedback to our department, if there are any problems with the support system that our department is responsible for, the business side can announce the problem by using Jira system.

IT Project management workflow at Latvenergo

Methodology

The project management workflow at Latvenergo is semi-similar to Waterfall and in some places it takes the usual activities from Agile methodology. Latvenergo do project management in a bureaucratic way. I was more used to the Agile way of managing IT projects while studying at the university, and I never bothered to learn more about waterfall, but now I truly understand why big companies like Latvenergo would choose Waterfall over Agile. It is because it is hard work Latvenergo to work with short releases.

Workflow

The workflow of project management in Latvenergo company is bureaucratic. There is specific set of procedures done and followed while making a project. Project management is split down into stages which help the team to focus on what they are doing without failing to see a bigger picture of the project.

Start of the project

The project usually starts with someone (any Latvenergo employee or group of employees who is in need of a new service, or wants to significantly improve an existing service) registering an application in the ITT (and other support function) process system Jira (in Latvenergo it is called "Bura"). After the application for a new project is registered, the director of the ITT (Information technology and telecommunication) accepts and assigns a project manager to this project.

Conception of the project

After this step, a conception of the project is needed to be made. It is done by a representative who registered this project and project manager. The artifacts that are made in this stage usually are a draft of the project plan, defining the sphere of the project, the magnitude of the project, resources. If there is a need of new service to be implemented, the prognosis cost of the implementation is added. In the system Jira, project manager and the representative states the decision of starting a project, describes the project business goal and adds the time needed for the project to be done.

Adding an outsource (if needed)

The development of IT projects in Latvenergo are sometimes done by attracting an outsource – another organization/ company that provides IT solutions for other companies. If there is a case where an outsource is needed to be attached to the existing project, the committee of the project management has to accept and approve that the attachment of the outsource is really needed, the project manager organizes the purchase of the outsource services. If the outsource is not needed, the development is done by Latvenergo developers of the department that is responsible for exact service.

Refine the project plan

The next step is to make a more detailed plan for the project management by determining the milestones and most essential activities, their timetable, all the resources that will be involved in making of a project and of course the budget. This stage of the project management is done by project manager using system "Bura". And the result of this activity is an artifact – detailed project management plan.

Coordinate the project

When the detailed plan is completed and finished, the project has to be coordinated with the project management committee. The committee examines the project and makes the decision – either they want to proceed and realize the project, postpone it or close it down. If the committee wishes to proceed and realize the project, the head of the ITT functions accepts this decision in the system "BURA". After this step has been done, the project manager who is attached to this project organizes the approval of the budget. This whole stage is completed using such systems as BURA and Lotus notes. As the result of this stage the result has to be indicated inside the system BURA

Realize(realizē) the project

In this stage the project manager realizes the project by organizing the execution of the needed activities within the framework of the milestones with the assigned resources, and if needed assign specific tasks for the working group. Also in this stage the project manager regularly meets with the project management committee to provide an insight of projects progress.

Implementation of the project

The last stage in project management at Latvenergo is the implementation of the specific project. The representative and project manager organizes the launch of the project (web application or any other artifact that is made as an end product of the project). They also inform the users of the launch, and if needed performs a training for the systems use. The help desk has to be informed about changes and the launched project.

Communication, Meetings

The communication as in any other working place is a crucial thing. In Latvenergo the communication happens either by having face to face meetings in the meeting room which you can reserve using the system Lotus Notes or through using a phone calls or skype calls. The team members are usually located in the same office which makes communication so much easier.

Tools

There are many tools and systems that are used for project management at Latvenergo. The most important one is Jira (named BURA at Latvenergo). It offers a good project tracking, it is very flexible, and Latvenergo has adapted it to its needs. This system was a new thing to me, and it took me sometime to fully understand it. Jira system is well documented, it helped a lot, and of course if I had any question I could ask for a help from one of my colleagues who has been working with this system for much longer than I have.

Another important tool at Latvenergo is Lotus Notes. It's crucial for a good, constant communication. Every employee has its own Latvenergo email. We are not allowed to use Gmail, Hotmail etc., for a security reasons. And I actually find Lotus Notes very suitable for everyday work at Latvenergo.

For diagram drawing in Latvenergo you can use the tools that are most suitable for you. At the beginning I was using Visio, but my IT project manager introduced me with a new tool that you can find at draw.io. I got really used to using draw.io that I fully switched from Visio to draw.io.

Work Assignments

Before starting my internship my IT project manager had had prepared a list of goals and assignments that I have to do during my internship at Latvenergo. The first assignment was to prepare documentation for one of the existing systems, plus I had to make a business process schema. The second assignment was to research an existing software delivery process at Latvenergo and offer a new automated solution that

includes – software delivery, tests and infrastructure. I have also two additional assignments with a low priority – to examine GLPI system², and to work more with programming for additional project.

EIS (Electronic purchasing system) update

This system is meant for managing the purchases for Latvenergo. For example the purchase could be - a new trench so the construction workers can install a new cable in the ground, or a new outdoor disconnector transformer has to be built at the specific location. The users of these systems are the power supply construction work purchase department at Latvenergo and construction companies and their workers.

The EIS system has been in use from the year 2013 and since then technologies has advanced rapidly. It is necessary to migrate EIS to newer technologies. There has to be changes and updates for user experience side and also functionality for the programming language that is used for this system which provides a communication with the database has to be updated.

My assignments for this project was to write a report about existing EIS system, write a description of every screenshot from the system and add the new requirements for the system. There was more than 30 screenshot and I had to describe them in detail. This artifact that I made is for the outsource company so they can easily understand what our requirements are for the new system. I made the report and screenshot description using Word document. This assignment took sometime just because I had to fully understand the whole process of this system, not only I had to understand the functionality but also I had to understand and be familiar with the business side. Because of that I had to have a good and understandable communication with the business side.

Another task for this assignment was to add new requirements for the upcoming updated system. I did it by interviewing the business side (Latvenergo employees who is using this system). And to be truly sure about the new requirements, me and my IT project manager did a user experience testing, we did the simplified version of UX testing and just sat down behind their (Latvenergo employees) desks and monitored their workflow and how they are using the existing system – if there is any difficulties or things that has to be added. For example one of the things we noticed is that most of the employees use split screen (one side Excel document, other side EIS system) and till now EIS system did not have a responsive design, that is why for some employees it was hard to use this system with the split screen. So one of the requirements for the new system is to have a responsive design. I will add the whole document of the screenshot description to this report. An example of EIS system description (the description is in the Latvian language):

² GLPI – glpi-project.org/spip.php?article317 , at Latvenergo – glpi.energo.lv

5. Objekta izveide. (LE darbinieks)

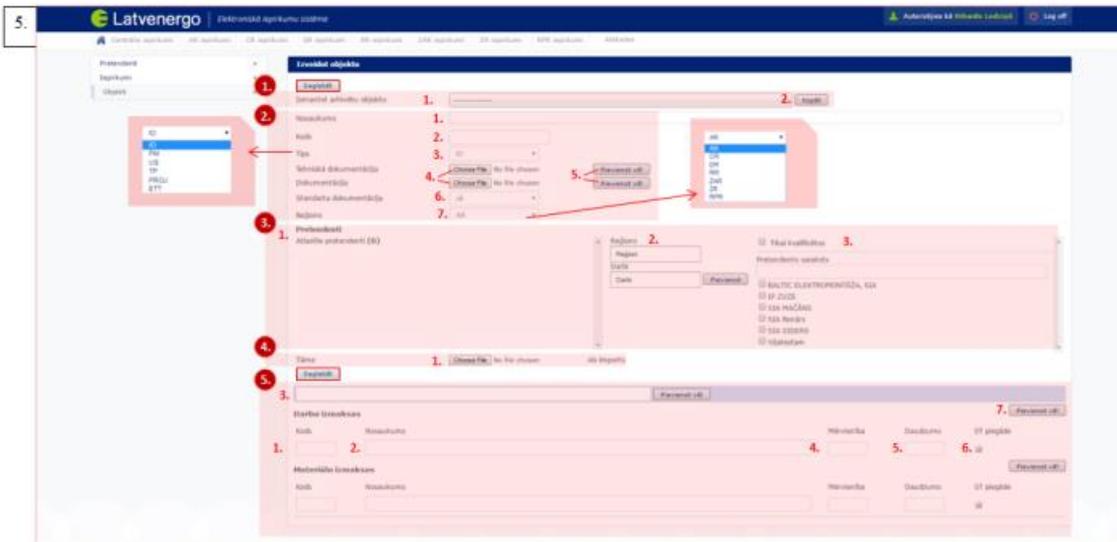
Objekta izveidošana. Izpildi veic LE darbinieks.

1. Opcija kopēt esošā objekta specifikācijas informāciju, ja tiek veikta atkārtota piedāvājuma iesniegšana.
 1. Iespēja izvēlēties kādu no esošajiem arhivētajiem objektiem
 2. Spiežot pogu "Kopēt" atlasītā objekta informācija tiek automātiski ierakstīta specifikācijas lodziņos
2. Specifikācija
 1. Objekta nosaukums (Objekta nosaukumu parasti iekopē no citiem dokumentiem - būtu nepieciešama automātiskas kopēšanas funkcija Piem. nospiežot pogu izpildas "ctrl+v")
 2. Objekta kods
 3. Tips – IO; PM; US; TP; PROJ; ETT;
 4. Tehniskā dokumentācija; Dokumentācija – iepirkuma dokumentācija
 5. Iespēja pievienot vēl iepirkumu dokumentācija
 6. Standarta dokumentācija – Jā/Nē
 7. Reģions – AR; CR; DR; RR; ZAR; ZR; RPR.
3. Pretendenti
 1. Atlasītie pretendenti
 2. Opcija atlasīt pretendents pēc Reģiona (AR; CR; DR; RR; ZAR; ZR; RPR.) vai Darbiem (20 kVKL, 20 kVGVL, 20 kV SI, 1000 v, VB, PROJ)
 3. Pretendentu saraksts no kura var atlasīt pretendētus. Pretendentus atlasa atzīmējot izvēles rūtiņu. – objekts atlasīts.
4. Tāme
 1. Iespēja importēt failu – XLS formātā, kurā norādīts darba kods, darba nosaukums, mērvienība, daudzums, ST Daugava, (Gadījumā nepieciešams, ka nav iespējams pēc XLS importa veikt importētās tāmes noņemšanu "delete" vai konkrēta tāmes izveidi, neprecīzi ieimportējies)
5. Darba izmaksas un Materiālu izmaksas (iespeja ievadīt manuāli bez tāmes xls faila importa)
 1. Darba vai Materiāla izmaksas kods
 2. Darba vai Materiāla izmaksas nosaukums
 3. Materiāla nosaukums
 4. Mērvienība
 5. Daudzums
 6. Opcija atzīmēt kā ST piegādi.
 7. Opcija pievienot vēl vienu Darba izmaksu vai Materiāla izmaksu.

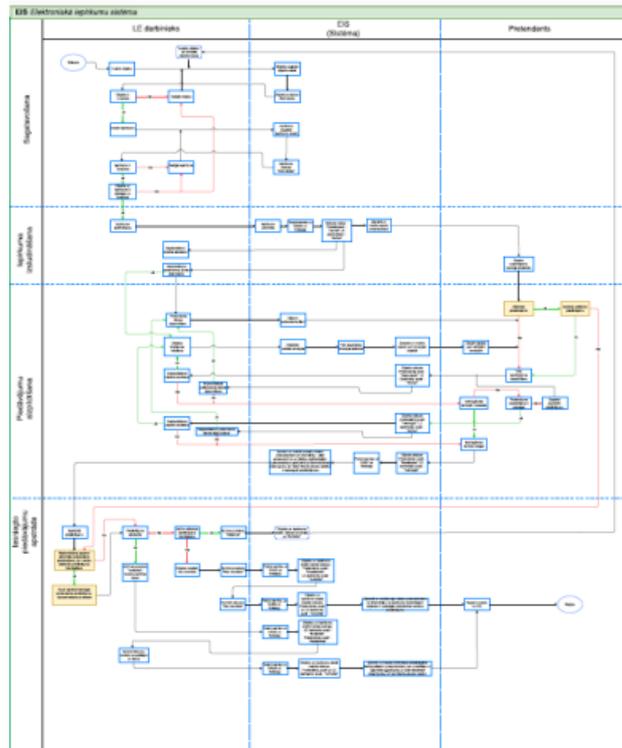
Objekts vēlāk tiek saglabāts objektu skatā un atzīmēts ar statusu **Melnraksts**.

Nepieciešama iespēja datus no jaunizveidotā objekta (3. Tips, 1. Objekta nosaukums, 7. Reģions – AR; CR; DR; RR; ZAR; ZR; RPR, 2. Opcija atlasīt pretendētus pēc Reģiona (AR; CR; DR; RR; ZAR; ZR; RPR.) vai Darbiem (20 kVKL, 20 kVGVL, 20 kV SI, 1000 v, VB, PROJ), izvērtēšanas datums, līguma summa) ar pogas palīdzību nosūtīt uz epastu. Ja objekts nav saglabāt jāparāda paziņojums lūdz saglabāt objektu.

2 Description of EIS system



Another task for this assignment was to make a business process schema of EIS system. This was made for the outsource company to understand what is the whole process of this system. I have never made a business process schema before, at university we have made SSD diagrams which is the closest thing I can compare it to. I was lucky that my IT project manager gave me an example of existing business process schema from another system that they have been working on. The hardest part of the task was not to actually draw this diagram but to understand the whole process of the system. I made this diagram using website called draw.io. I will add all business process schemas/ diagrams to this report. Last draft of the business process schema for EIS:



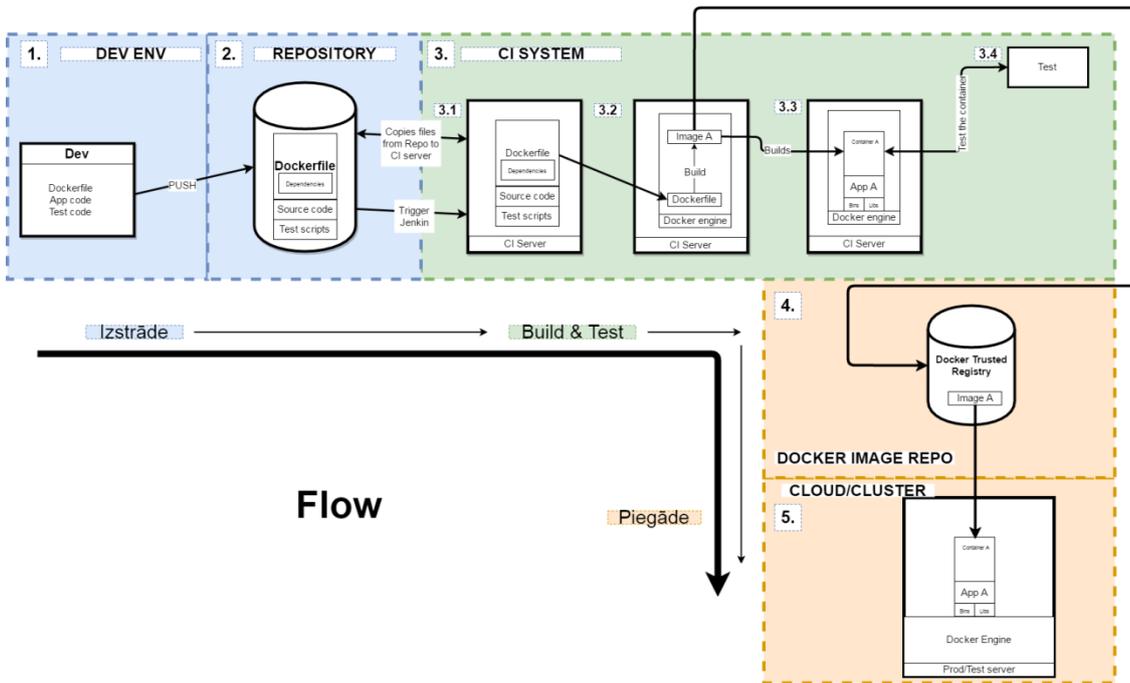
3 EIS business process schema

Researching software delivery process at Latvenergo

The first thing I had to do with this assignment was to research and understand the delivery process at Latvenergo. I had to go through every step and read the existing documentation about delivery process. Before doing this task my IT project manager explained to me what is the real problem. The problem was about server configuration, it takes time and resources. Production server has a different environment than a development environment and devs have to be aware of the dependencies.

Our solution was to incorporate a new software engineering approach called Continuous delivery into our existing software delivery process at Latvenergo. So I had to research both Continuous delivery approach of delivering process and continuous integration practice. Since now Latvenergo has been using VMs for production environment that's why we also wanted to find a substitute to VMs so we decided to research a new way to build and run our web applications on the production server. My IT project manager suggested to think about containerization, and that what I did.

The next step was to combine those new technologies – continuous delivery, integration and containerization and come up with the delivery process that is suitable for Latvenergo. This took me sometime because I didn't have that much knowledge about continuous delivery and integration and the technologies that are associated with these practices. Especially I did not know anything about containerization. One of the schemas I made :



4 Delivery process pipeline

Time to time I had to make presentations about my research and present it to my IT Project Manager. At the beginning I had few difficulties with presenting just because I was so used to the English terminology and now I had to use IT terminology but in Latvian language. In total I had 4 presentation and in the last presentation I had to take this idea of continuous delivery and integration + containerization and show it how it would work in Latvenergo.

The artifact of this assignment was multiple power point presentations and schemas that I made using draw.io. For this solution to be adopted to Latvenergo there has to be made a lot of arrangements and more detailed investigation but I was happy that I could start this conversation about this new technology in Latvenergo. Maybe someday when all the arrangements will be made they will adapt to this solution which is the overall goal of doing this assignment.

I also did some additional tasks like testing. My IT project manager and our teams developer were almost ready for the deployment of one of the systems. But before the actual deployment we had to test it with multiple scenarios the exact system but only on the test server. I tried to test the system by doing as many user scenarios as I could, I took notes and if there was a problem or an error I immediately contacted our developer to fix the problem. We tried to test as much as we could so the product would be ready to deliver the system. Usually the business side is the one who is testing the new systems, but we didnt have much time so I had help them with this task.

My thoughts on the internship

I applied for this internship while still being Denmark. I was a bit skeptical and anxious about starting an internship in such a big company. At first I thought it would have been better if I had started my career in a smaller company so I wouldn't be overwhelmed by the size and magnitude of the company but actually this was not the case. This internship thought many great things, it made me understand the importance of a good IT department and how project management works with big scale projects.

How did my assignments go?

At the beginning it took me some time to adjust to the working environment. I wasn't that fast with doing certain things just because I had to get used to the different tools and systems that we were using. Also switching to Latvian language IT terminology was an obstacle; few times I had to search for a translation to English language just to understand what the conversation is about. After the first two months I got finally somehow used to the terminology, still I prefer English terminology over Latvian terminology.

The first assignment went very well. It was a first time for me writing an instruction/ manual for a system and also it was a first time for me drawing these kind of diagrams. The only similar diagram that I was familiar with was a system sequence diagrams which is more for the software design. So I had some basic knowledge in drawing diagrams. In my opinion business process schema is similar to SSD diagram; the only difference is that business process schema is more extensive than SSD. This assignment took me some time to be done just because sometimes it was hard to understand the business needs, and they always wanted me to add something to the diagram that they forgot to mention before.

The second assignment was really interesting because mostly everything I was researching was new to me, whether it was only briefly mentioned in the lectures at the university or wasn't mentioned at all. I really enjoyed the fact that I was able to learn something new almost every day while doing this assignment. I am not saying that it was easy to dig deep in the internet and research the problem and find the solution. Some solutions was easier to find and understand, some wasn't. I had some problems with presenting my solutions to my IT Project Manager at first, but I think I got better at doing that, also my IT Project Manager explained an importance of knowing how to convince someone that your solution is the right solution and also what to put in the presentations and not.

The workflow at Latvenergo - how things are happening here and done was easy to understand and adapt to just because the workflow is really good documented and of course if I had any problems or questions I was always free to ask someone for a help.

Conclusion

The task given to me in this internship extended my knowledge and understanding of what do I want to do after the end of the school and internship. I realized that I do want to try work in other fields in IT, for example just to try out how is to work in IT company as a programmer. Of course I wouldn't mind being a project manager, it is a really interesting job to do. I also realized that the classes and the knowledge that I had in university gave me a good basis of expertise in the IT field and it won't be that hard to find a job.

My plan after this internship is to try to find another internship or if possible a work as a web developer and broaden my programming skills.

I also realized that - one thing is learning something at school and other thing is actually doing it in practice. I think I learned so many things while doing this internship and it only a will to learn more and increase my knowledge. I enjoyed learning about new technologies and things that I wasn't familiar with. Almost every day there is an opportunity to learn something new and I don't mind doing that. The idea that I learned almost as many new things as in school made me really grateful for the opportunity to work in the internship.

Reflections on learning objectives

I have realised that I have learned quite a lot while doing this internship, not only about things I have listed in Learning Objectives chapter in here, but also many other things, like – How does the business work together with developers and IT field, How is the infrastructure working in IT companies and there should be good communication between IT developers and infrastructure developers, I learned that there are always things that you could make better in delivery process and specifically how to find a solution for that.

I must say, that I learned and perfected my knowledge about project management in IT field, and that almost at every other company the way how the projects are managed differs just adopt to organizations needs, and it takes time how it is different and how are they have adopted to different project management methodologies. I haven't started my last listed learning objective, which is programming, it is because I was busy with doing other things and tasks, and I still got time to focus on tasks that include programming, as I am not yet finished working here.

Appendix

1. Internship diary, day to day plan
2. EIS system description and business process schemas
3. Recommendation letter