Weekly report #5 and #6

Status report

Date	25-03-2014
Week	11 – 12
Group	CAPGEMINI_EMR_integration

Introduction

We've finished sprint #3 and are currently working on sprint #4. Due to the midterm rapport we've chose not to do a weekly report as well last week. A update for last week is included in this one, and that's why it's a bit longer than the others.

Progress summary

The last couple of weeks have been pretty hectic in terms of workload and having enough time to spend on the project. Some group members can't attend our work sessions because they have to do paid work on top of other subjects. And since meeting evening and nights are out of the question, we make due by re-distributing workload. Luckily, because of our issue tracker, we manage to have a fairly good overview of how much work is remaining and who is doing what.

This week we finally got a solid answer as to where to focus our energy in regards to what existing platform to support. Therefore we now also know which of the different standards to focus on. Initially, the customer wanted the application to work in every hospital in the world. Knowing this was impossible for our time frame, we restricted our domain to Norway. When we, after some time, got a hold of the Norwegian routines and infrastructure, we had to restrict the task even more.

A lot of effort has been put into reaching out to key persons in the medical business, as well as our customer, in regards to finally getting a solid answer to which protocol our app is to rely on. Since there is quite a few different protocols (HL7/DICOM/HL7 CDA/HL7 CDAR2 to name a few) used, and our costumer did not know how the infrastructure and existing systems worked, we had to figure this out and educate our customer before he could take a final decision. Initially the customer had knowledge of the PACS-system (using the DICOM protocol) and wanted us to work with it. But as our insight in this industry grew, we realised PACS is a peripheral system used only by radiologists. The user of our application is defined as any doctor, therefore this solution was not applicable for us.

We started researching these systems already in Sprint 1. But because we are dependent on external resources giving this information to us, there has been a lot of waiting for answers. Some even advised us that the goal we are trying to reach – creating a platform capable of communicating with different hospital systems – is way beyond the scope of a bachelors degree. It have dawned on us that there is some truth in this. Because we have limited time, we realised it's unrealistic to assume that our app would manage to support more than one system. Thats why we have restricted the task even more; to just communicating with the DIPS platform. The reasons for why we chose DIPS are many:

- DIPS is a Norwegian company based in Bodø.
- They are the largest vendor of PAS (Patient administration software) and EMR software in Norway.
- They are known to follow international standards.
- Their technology stack is (as far as we know at this point) somewhat built on known Microsoft technology.
- We had already established connection with people there.

In retrospect, it has occurred to us that our project was off to a bad start. We have used a lot of energy to research PACS, which turned out to be a dead end. The realisation of this turned out to have a big impact on the group in week 5 of the project. Group moral was at an all time low. It's very hard to motivate people and get motivated when we have neither a goal or direction. And the more we talked with the industry, the more we got aware of how huge a task we had in front of us.

But last monday (17.03) we talked with Alexander Theodorsen from DIPS, Pieter Toussaint from the Norwegian EMR Center and finally our customer. This collected a lot of loose ends and we got to educate our customer in the research we had done. We agreed upon the decision to only support DIPS for now. We also told the customer about future solutions we had discovered in our search for answers. The customer was satisfied with this, and wanted us to look more into this as well.

All in all, the motivation, goals and progress of the project more or less flipped in a day. We couldn't have asked for a better start on sprint #4. We reorganised the final two sprints of the project, and defined some clear goals to reach.

As a final note, I hope you get the picture we have been trying interpret all this time. Previously you have commented our somewhat inadequate requirements, as you can see, the reason for this was our inability to know exactly *how* this application was going to work. We now have a good idea of this, and are motivated to finish the development by the end of sprint #6.

Open / closed problems

Missing information from external sources.

Solved problems

- The application now authenticates to a LDAP-server
- Saving data in a SQLlite database.
- Review and upload fixed.
- Delivered mid-term report
- Delivered peer review
- Decided what system to support (DIPS)
- Setting up app.
- Created parser to read package files.

Open problems

- Strip personal data in offline mode.
- Encrypt the SQLlite database.
- Upload images to DIPS-server.
- Get patient data from DIPS-server.
- Get user data from DIPS-server.
- Research future solutions (OpenEHR etc.)
- Plan and conduct security tests
- Conduct a new series of user tests.
- Clearly define a *final set* of requirements.
- Research the DIPS architecture in greater detail.

Planned work for next period