STUDENTLITERATURE DOCUMENTATION

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AEGIS PROJECT DOCUMENTATION

Introduction & Abstract idea:

It is curious that when we arrived to the University, all of us were surprised how first year students were literally running around asking second and third year students to sell them course books, different books, at different prices. Some buyers were more choosy than others and/or able to pay more than other buyers.Our idea for the DSS originated from this since we thought that the situation could be improved. (didn't know by then that we will develop an application about it.)

1- Aegis decision on application

Group Aegis created a DSS for selling secondhand course literatures regarding mainly the Software Engineering and Management program but also for any other type of program and for any other type of literature.

Immediately after the project was handed over, we had our first meeting that consisted of a brainstorming session, gathering information and ideas from all the team members. Everyone suggested what they wanted the project to be about (Car application, Horoscope application, dating application, Boats application...etc) we realised by then that we are such a variety of individuals every suggestion differed from the other because we all have different interests. Therefore, we finally decided to go with something that was of common interest- our studies.

This suggestion seemed doable and we finally got convinced after a meeting with our supervisor Sam (Hussam Al-Azzawi) , following his advice we moved further with the idea. His approval   made us definitely have an overall picture of what is required from us and also we felt encouraged and motivated about starting the project. And simply because none of us   was particularly happy about the prices of books and finding used books for sale was a real issue for us as students, and since some of us weren't even able to get the books during the term.

The initial idea was inspired from the concept of the "Blocket" type DSS but with focused product "books".

2- Organising the project tasks:

We, as per our supervisors advice, decided to split the group to three main subgroups as we will have to focus in three main areas.

- The database.

- The design of the the frames.

- JDBC as we obviously need to connect both.

- The management part that we consider it a very important area for the project organisation and development.

Our main tools were Netbeans and Mysql.

3- Responsibilities of individual & introducing the team members, functions and Impressions:

As team, we are all creative and we have a lot of ideas, so when it comes to new ideas of the project, we were all taken into consideration and we have all participated with ideas.

1- The database team consisted of Carl Kähr and Jonas Torstensson, they had great team work and set up the whole database from scratch, they both had great knowledge about creating a database and they did not know much from the beginning they literally did research and learnt a lot on the way.

2- The GUI Team consisted of Ilya Golikov and Malcolm Kente, they both have an interest in arts so the whole group felt it would be smart if we let them do the designing and show their talent. They used Netbeans which has WYSIWYG inbuilt into the system. Each page started off as a JFrame and other interface components were added onto it by the JDBC team afterwards. Such as labels, buttons, textfields, actionlisteners... etc. Their teamwork was good, they had meetings with each other and they created a very nice and stylish design that is easy to understand. Malcolm created the Sellers profile frame, Sellers offers frame, and Ilya created the Search results frame, Registration frame, Inserted text. The about us & liability clause they created together. Malcolm was the first one to learn and understand NetBeans so he was a great deal of help to the other team members and also updating all the details of the created GUI to the JDBC team.

3- The JDBC Team consisted of Ibtissam Karouach, Md. Zubayer Alam. The JDBC team was the most challenging & efficient at the same time that is only because they had a lot of work in the project to do besides learning both Database, and Netbeans in a bit of a time squeeze both Ibtissam and Zubayer have strong personality and different opinions which is good. They worked very well though, Zubayer did most of the connecting for the beta project with a help and learning hand from Ibtissam, and Ibtissam did most of the connecting for the final project with a helpful hand from Zubayer. This was not the initial planned way of doing the JDBC but it glided into this arrangement and as the project manager saw it and assumed that this worked better than spending all the days arguing, discussing and overcoding each other.

4- The Project Manager was Sara Johansson, she kept the communication as good as possible, she set meetings and sub-meetings and recorded all the meetings she assured that issues that raised would be solved and she was always ready to jump in when needed and wherever needed by the GUI team, Database team or the JDBC team and made sure that everyone was up to date and present during the meetings and if not present, she kept the people informed of all the latest happening. She spent a lot of time with the requirements documentation and the final documentation. She also wrote the about us file and the terms and agreements file.

4- What are Aegis application overall functions:

Not all of them are listed here, there are other to be found as comments in the code.

- The buyer profile: which is any student interested in course books. However, this profile has been developed to any person that is interested in buying any kind of book, since there are no strict or specific requirement to be applied to the buyer: which means that anyone can buy a book using our application.

- The seller profile is the other main profile for the application, the seller can introduce all the personal information and also update as many books as wanted including similar books with similar conditions.

- The connection between the buyer & the seller: The sellers information is to be displayed to the the buyer, and the information includes, the name & the sellers e-mail address and therefore contact the seller directly.

- The administration is a user that has a profile with more privileges (One or more "powerful users") over other and it actually is able to assign any other admins as well, he has power to delete a fraudulent profile if detected or reported.

- The registration part, is accepting the terms and conditions, and therefore upload personal data to be able to sell using the application. The seller can create a profile by putting and modifying personal data such as name, phone number, email address and password.The seller can actually choose a username given that it is available and this username is fixed, and cannot be changed by this user.

- The seller can edit all the information of his profile, and change it but he can't change his user name.

- Search engine can be used in many different ways, and it is a very helpful field that we focused on and we can retrieve data in different ways:

1- By entering nothing in the search field and directly clicking the search button all the available books in the database will be displayed. This way we will be able to use two different options :

"Sort by" Option, we can sort the book by author, title or price. (Author alphabetic order   Price the lowest first - Title alphabetic order).

"Filtering Option",   we can use one or more filters to filter the data by selecting a range or many price ranges, and also choose the book condition, (Good, fair or poor) or choose many conditions at the same time and also be able to use multiple filters.

2- The search field can also be used in a way to search something: The User can search data by typing initials of the word, the end of the word, or characters that the word contains. For example if you want to search "Monkey", you can write "M" or "Mo", or "Mon".... or "on" or "key" ….etc. Then the engine will give you "monkey" as result if it is stored in the database.

- A counter to keep track of the number of the users registered in the application by showing the current number, and refreshing (F5).

- A counter to keep track of the number of available books in the database, and the same way by refreshing, we can actually see the increased numbers of book uploaded.

- We have also used some shortcuts to make it easier, such as F2 to register, and F5 to refresh.

- We have some button to the web pages, GU, GUL & and Facebook that will open these webpages, in your default web browser (Google chrome, mozilla firefox…).

- The Upload option which will retrieve the data about the book, and also the image of the book, and store it in the database.

- Display the information about the book in a separate window that shows bigger profile attached to many information in case the user wants to display specific information about a specific book and this is a luxury to see all the details in view details, with the image preview in bigger dimensions.

- The user that have a profile, will be able to administer its own password by creating a password, and also by having the chance to change it and such password will be also updated in the database.

5- Database Structure:

- We created a database that consists of two tables, one table named "books" and the other table named "sellers" this table includes title, author, book condition, ISBN number price, and Unique book ID and Image.

- The other table consists in the "sellers" table which contains the name of the seller, e-mail address, password, phone number, the seller ID, and Admin ID.

The books table contains all information about the books that are in sale and the sellers table contains information about the sellers and that is basically how it is set.

6- Issues we faced and solutions.

- After the Beta presentation, we decided to work on the search engine, after implementing it, we observed that we had no idea of "who is selling the book!!!"

We were faced with an issue that the books were linked to a random id number, we thought about it that one profile would be able to upload two or more similar books however, they were not connected to a seller in first place which could be a very big mistake within the application.

Solution: The way of solving it, changing the database structure and obviously alter the design that was approved after many skype meetings and by major agreement of the team. The solution is: When you login, the application stores the user ID in a variable, and when you upload a new book, this ID is inserted to the database, in that way we know who is selling the book.

- The search engine, we create a java based search engine that was working at the beginning, which we discovered after uploading a good number of books, that the application becomes slower, and start crashing more often, and that was obviously not very comfortable, so we decided to completely rebuild the search field the way it worked before, the application needed to download all the books in the database into memory in Java, and then do the filtering...

Solution: After discovering that the database filters are much more useful, comfortable and working very fast and we can eventually do the filtering in the database. The benefits by doing this, we only retrieve, the information we actually need.

- The other main issue is the time, for us the time was very short, as we have had many ideas to add to our project, such as a very basic feature "help", such as hash the password in the database and many other features that we thought of, but we were not able to add due to the deadline.

Solution: We can't actually work 24 hours a day, but we did all we could and we got the project done. No solution for this really except maybe optimizing our time better for future projects.

- We spent more time in the GUI & Database and very little time for the JDBC before the Beta which created some stress.

Solution: the way to solve it is using the entire holiday to work on the project.

7-Project growth

Phase 1.

Learning Sessions:

- We started the project by learning sessions, we decided to use Mysql & Netbeans therefore, we started with learning and sharing knowledge sessions by watching videos, and also reading the adequate chapters in the java book ("JDBC parts" for ex) to be able to start.

These didactic sessions took place everyday in the campus, we were all the team together watching videos, and taking notes of ideas and explaining to each other, and also we have been assigned homework to read the adequate chapters and also suggesting further reading in our facebook group, and encouraging each others.

Scheduling:

- The schedule was set by the Project manager with request from the individuals with available time and place in order to be comfortable the manager assisted to ALL the sessions with all the sub-teams and also the schedule was taking into account two different key dates (The Beta & The Final Project as the most important events).

Hands on the project:

- After that, came the practical phase: The database team & and GUI team started working at the same time, with supervision and help form the management and with close attention form the JDBC team in order to not get lost afterwards.

- The GUI & the database teams handovered their work to the JDBC team, and here we started to notice actually to notice what could have been added or removed (Application issues raised naturally).

Meeting Sessions

- Most of the team members or all were present during all the work sessions, therefore they could be consulted at any time. Also weekly meetings were set with the supervisor concerning the project progress, daily updates on Facebook group and discussions besides the face to face meetings. Subgroups meetings and groups meeting were the project manager was always assisting. Also we have had coffee sessions discussing project matters to get out of the routine.

8-The Diary…..

From scratch to Beta

We started the whole project by discussing what we should create. Then discussed the functions, we went on to assigning groups, eventually database and GUI started creating the tables and the Interface. We met to discuss the requirements we wanted and we wrote the requirements using Google docs and we all pitched in on creating it and making it straightforward.

We submitted it well in time and then the next step was to start creating, the 11th November 2013 the deadline was set for GUI and database teams to be done.

The database team kept us updated all the time on how they will do the layout and they had brilliant diagrams to make everyone understand easily.

The GUI team had it a little tougher since everyone in our group is artistic and it is very easy to have an opinion on what an application should look like since we have all been exposed to interfaces and not actually the programming or the database within applications.

On the 11th November 2013 both the interfaces and the database were done. Zubayer made the necessary changes during that time. To prepare for the Beta presentation we were all very focused on getting the project running and making sure everyone was aware of what did not work with the application yet. So as to avoid displaying bugs and focusing our Beta presentation on what we actually created instead of what we hadn't had time with just yet. We did have some issues the day before the Beta presentation because the application did not run properly, we were all literally gathered around one computer and discussing and arguing about the issue.

I believe we all felt a little panic when the application did not work. We had our demonstration and we all got an ego boost because we felt that the presentation was natural and that everyone understood our application clearly. We had our last face to face meeting of 2013 right before several of us were leaving the country. We all discussed the issue of the search Field and how we wanted it to be set, we then came to an agreement to fix this and make it work accordingly. Ibtissam also informed Zubayer her availability during holidays as there was too much to be done.

We made a rough plan on how the project would be continued during the entire winter break. We encouraged our newest member to work hard so as to catch up to the rest of the group's workload.

From Beta project to Final Presentation.

The JDBC team was responsible to finish on the project with assistance from the other teams if needed, and with very close attention and follow up by the project Manager with continuous Skype meetings. we have carried out many discussions over Skype concerning the development and the issues faced and trying to find a solution and also, we were trying to get the updated Project version and open it and test it and highlight the positive and the negative aspects even if we were far from each other, we kept a very close communication.

The basic idea of the project never changed but a lot of details and features in the project changed and added. In the beginning the search categories consisted of course of the year and price range, which were later changed to title, author and ISBN number. The initial category group included fields like course and year which were broad in context and proved to be not useful to implement to our project. We removed one of the search filters "Academic year", because we all agreed that this filter was unnecessary and would just contribute to time consuming work without a big effect on the application however, it could be replaced by much more useful things as sorting and filtering.

We all agreed on an early stage that our Aegis logo would be on top of the application, however the addition of terms and agreements in the register was suggested and implemented by the interface group. The About us feature is a fun way to explain what the application does and is about, we tried to keep the whole project professional but still fun for us to create and to visit. The access buttons to Facebook, GUL and GU are features to make the application more attractive for the user. We thought that if a person did not know what books he/she needed then they could connect to Facebook and ask one of their peers or visit either GUL or GU to find out what type of books they would need for a specific course. We wanted the sellers to have the ability to upload a picture of the book they were selling. We searched and asked but it was apparently tough, but Ibtissam was very persistent and managed to get this feature working just fine.

In the beginning of the project we had a very basic idea of what should be done and as we went along we could all see the outcome of the application more clearly and ideas popped up. For a first project like this I as the project manager did not want to hold any new ideas back since the failure or success of these ideas are what prepares you more for the other upcoming projects. Everyone was very happy with the fact that the way that the project would look like was not set in stone. Of course there were issues with the differing end result idea that was in every members head. We could of course not all have the same idea of the outcome, I realized this could be a potential argument that would be a waste of time so every time this came up I wheeled it in a direction that would only focus on the features and what the system would actually do. The end result came piece by piece, we removed some features, we added some features and we improved some features after what the group thought necessary.

We went from wanting the application to be completely administrator free to acknowledging that we require an administrator that can access the database and remove certain users. We did this in the last two weeks and Zubayer highlighted the fact of adding the admin part to be able to control fraudulent users.

During our vacation we had discussions over Skype, and Ibtissam informed us on the progress of the project. She raised the issue that the database needed to be altered in order to fulfill the application's requirements. Detailed adjustments were done with the searchField, filters were made and she notified the group of other issues, such as that the books were not linked to a seller. She added the mail in the profile and in the database, and to be able to upload pictures and control over the application adding features such as the numbers of users and books, since during the testing, we were not able to track what we had in our database.

Long testing sessions were also held by Ibtissam and Zubayer in different computers, after coding ever new method and making sure that it works, before the next step.

Further testing sessions were done by all Aegis group during the last meeting before the presentation and also during the Skype session and both positive and negative feedbacks were shared in order to improve and encourage.

9 Observations:

We were and still are a very large group, we had some communication issues at certain times but overall it has been adequate. Another problem to consider is that 2013-10-30 we decided to take in a new team member, it was difficult to assign a new member to one of the subgroup since the project had already started and most subgroups had already educated themselves with what they had to accomplish while the new team member had not. After a while we realized that there was a problem and we took on a new approach and positioned the group member into another subgroup and a person in that subgroup would act like the new members personal guided.The JDBC In close coordination and support from the project manager admitted the new member and kept him up to date and made sure that he gets all the applications needed installed and working, and knowledge sharing sessions, unfortunately, due to some of his personal reasons the new member couldn't be present in Gothenburg.

We have several different mind sets but we are a group of people who know how to handle new people. We don't necessarily see each other as the best friends but we have a high tolerance level for each other.So far so good.

In the beginning we had some issues with understanding NetBeans and if/ how we could connect NetBeans project with Eclipse so that the JDBC group could use Eclipse since that is what they were more comfortable with. We took the advice from our supervisor and the JDBC had to go out of their comfort and use NetBeans as well and it did not take long until the JDBC group got used and comfortable with that IDE. Another issue that we faced was that we had thought all along that we would be graded as a group but right before christmas we found out that it would be individually so we had to start remembering who did what exactly and put the names on the classes and queries. We also faced problems with the search field in the Beta version of the project. It was only able to search for 50% of the name typed into the field. After modifications, the search field was upgraded with a better partial search feature which allowed for a more detailed and appropriate search.

We got away with it for the beta but we all agreed that this had to be fixed for the final project demonstration. The JDBC team worked on it wisely, some adjustments had to be made with the database as well to support the change in the searchfield. In the end the searchfield is working the way that everyone wanted it to work.

10- Discussion on how we could have made it much better

As a group we are satisfied with the production of this project. However just like any other project, there are things that could have been improved and situations that could have been made easier. The group could have been even more efficient if we organized ourselves better with the project. Many times we

found ourselves not sticking to plans made and freestyling our way through the project. This did of course add to the amazing variety of ideas, opinions and input from group members but it did take up more unnecessary time than needed. Documentation was another issue, where we didn't necessarily document all the things that went wrong under production. This could have helped during meetings when going over what people had worked on and understanding more vividly why and how code was changed. Our interface could have included more color options so as to attract the user. Although the look it has now is clean and simple, it does feel a bit plain. A few more emphasis with color accents could have preserved the concise look and added more enjoyment to the user's eyes. Some graphical elements could've helped as well.

A project can always be improved and it is easy to be after smart. Our Interface could have been a lot splashier, we could have used github instead of dropbox to simplify sharing. We could have been more organized and we could have planned and project stuck to plans more than we did. We should have documented issues that happened during producing the project and not only issues brought up at meetings.

11- Working hours:

Database:

- Carl Kähr ~110 hours

- Jonas Torstensson ~110 hours.

GUI:
- Malkolm ~ 100 hours.

- Ilya Golikov ~90 hours.

JDBC:

- Md. Zubayer Alam ~110 hours.

- Ibtissam karouach ~115 hours.

Project Manager:
- Sara Johansson ~100 hours.

While writing the detailed time that everyone worked i acknowledge the time spent researching, all the meetings, discussing the project, the actual creation and the time spent on presentations. Basically anything circling around the project.

12- Conclusion

We are not sure, if the final Project is very good or very bad from a teacher perspective, , however, all of us feel very satisfied about our work since we are very sure that we did our very best, and also we have had a great team spirit and enjoyed ourselves a lot the entire development process. We learned not only new technical things, but also to work as an efficient team. We were very understanding to each other, tolerant, flexible and we knew how to motivate each other and make every team member feel very valuable in the project. That was our main goal besides being able to present a working application that we feel proud. We decided to make a very simple project, but we found ourselves motivated by discovering many new things and actually being able to improve it and ending up with an application with several smart features. We were all very passionate about the project during the entire development time, we had fun arguments and none that grew to personal disputes. We always kept it very proffesional and keeping a very high team spirit.