

Project conclusion report - small and large teams

BTH, (October ,2017)

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Course: (Agile and Lean Software Development,PA2555)

Group8



Summary

Agile and Lean is kind of increasing iterative software development method, it is useful and adaptive in the development market, so we made up a group to experience such development way, what we have done, what things we have met, how the limited time we managed ,what ideas our group came up with, and how did we solve that problems, how to divide a big project into small tasks, that's my report should cover.

Our group developed a BTH Banking website. About skills, we using java language and java spring framework, our database using MySQL, our website pages using JavaScript and CSS. Our goal is to develop a website become easier to use ,and fast react for user. And we chose the Agile and Lean Software Development, in this way, we made our requirement clearer and tried to eliminate waste during the development process. After the last time of our delivery, we satisfied our customer. We have held many times retrospective meetings, and wrote down Metrics, introspection let us know where we did a good job, where we could win big but because lack of something, how to improve.

We have learned much from Agile and Lean Development way, the trusting atmosphere is good for teamwork, and the friendly atmosphere is good to build the benign relationship with our custom.

Project Overview

i .Project assignment

Project description: Our project is about an easy-using banking website. The website users can view the home page and register their own account, the registered username and password will be sent to the users 'registered email, then he or she can login in and view their current deposit. They also can transfer their money to other account by the advice, the corresponding account 's deposit will be updated, and current users' balance will decrease corresponding money at the same time, and you can check in your account ,it will show what kinds of expenditure you spent this month in pie chart way , it also can display the balance table for you, let user easy to know and understand the input and output. Our website also can support feedback function, which means our customers can return their feeling of our web to us.

Customer: Torbjörn

Intended users: We designed such web application aimed at common people who are not very good at banking tasks, want to use online banking system to transfer their money, and can easily view their account changes.

Main purpose of product :A web solution where I can easily and fast do my banking tasks .And the customer want to get financial advice and see the financial development.

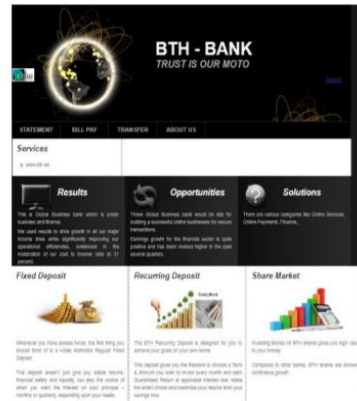
Tools: window 10 ; Java, JavaScript, JSP,CSS, Spring MVC, Oracle Database



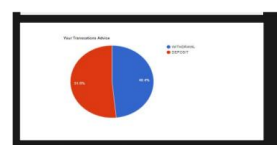
User Experience



Financial Development Advice



Financial Advice & Development



ACCOUNT NO.	TRANSACTION DATE	DESCRIPTION	DEBIT	CREDIT	BALANCE
1	Wed Sep 27 18:08:11 CEST 2017	Cash deposited through Bank	0	400	34128
1	Wed Sep 27 18:49:06 CEST 2017	Cash deposited through Bank	0	300	34828
1	Wed Sep 27 18:37:10 CEST 2017	Cash deposited through Bank	0	500	35328
1	Wed Sep 27 18:16:14 CEST 2017	Cash deposited through Bank	0	400	35728
1	Wed Sep 27 18:14:15 CEST 2017	Cash deposited through Bank	0	400	36128
1	Wed Sep 27 18:12:20 CEST 2017	Cash deposited through Bank	0	500	36628
1	Wed Sep 27 18:08:37 CEST 2017	Cash deposited through Bank	0	500	37128
1	Wed Sep 27 18:01:09 CEST 2017	Cash deposited through Bank	0	200	37328
1	Wed Sep 27 18:00:48 CEST 2017	Cash deposited through Bank	0	200	37528
1	Wed Sep 27 18:04:45 CEST 2017	Cash deposited through Bank	0	200	37728
1	Wed Sep 27 18:04:00 CEST 2017	Cash deposited through Bank	0	300	38028
1	Wed Sep 27 18:03:47 CEST 2017	Cash deposited through Bank	0	300	38328
1	Wed Sep 27 18:03:31 CEST 2017	Cash deposited through Bank	0	300	38628
1	Wed Sep 27 18:03:11 CEST 2017	Cash deposited through Bank	0	500	39128
1	Wed Sep 27 18:00:32 CEST 2017	Cash deposited through Bank	0	300	39428
1	Tue Sep 19 20:59:39 CEST 2017	Cash deposited through Bank	0	885	40313
1	Tue Sep 19 20:59:01 CEST 2017	online for 23	0	441	3843
1	Tue Sep 18 14:59:16 CEST 2017	Cash deposited through Bank	0	41	8069
1	Tue Sep 18 14:56:04 CEST 2017	Bill Pay	100	0	8169
1	Tue Sep 18 14:52:20 CEST 2017	Bill Pay	100	0	8269
1	Tue Sep 18 14:54:58 CEST 2017	Bill Pay	100	0	8369



User Feedback

Please provide your rating here ...

RATING:

- SELECT RATING
- ONE (POOR)
- TWO (AVERAGE)
- THREE (SOME WHAT GOOD)
- FOUR (GOOD)
- FIVE (OUTSTANDING)

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BTH BANK USER RATING IS: 3.3

Figure 1.BTH Banking website

ii .Your Team

Group Member: RONG PENG ,LINXIANG RUAN, Dennis Olsen, Pavan Lakshmisetty, Sujeet Bheri, Sowagandh Mudrageda, Akki Reddy Challa.

RONG PENG: communicating with customer, updating backlogs and finish VSM, design web page.

LINXIANG RUAN: take charge of burn down chart, design home page.

Akki Reddy Challa: responsible for organizing meetings for our group.

Pavan Lakshmisetty: is the primary responsibility for the development team, coding the logic part. He is HoD.

Dennis Olsen, Sujeet Bheri, Sowagandh Mudrageda: they are development team members, help code and test Demo cases.

iii.Development model

Scrum model: scrum model need product manager list requirements and communicate with customers, customer will choose their desirable requirements, when they make sure the development requirement, product manager will list them as user stories and record in product backlog, the team will comprehensively consider their capabilities and the complexity ,them give out the rank of priority. Choose the priority by the rank into the Sprint board , we divide each of user stories into small tasks, each tasks we assign to one or two develop team member(s), then our goal is to finish Sprints. During the development, we have daily-standup meetings ,during this meeting we should answer and record three necessary questions :

What did you do ?

What are you going to do?

Have you met some problems during the development?

We also make a whole project into several deliveries, after several weeks ,we can deliver a Demo for our customer, then we welcome the changing requirements. After each deliveries we will hold retrospective meetings, and note down the metrics of current step Demo and what should we improve in the next step. When we hold the retrospective meeting, we would answer three questions: What do you think is good during the last sprint? What do you think is not well during the last sprint? Which part/How could we change/improve in the next sprint? We also need to draw burn down chart to view the gap between the actual finished days from the estimated days, from this graph we can know whether we should speed up our development and better to schedule. The VSM we can see the whole project development process, also clear to know the available time and the waiting time, we know the time and know the number of operators. After several iterative deliveries, the development result satisfies customer.

Motivation :We used Scrum model to develop the banking website, and complied with the Agile and Lean ideas and principles. We selected such model, because we want to develop software in a flexible and nimble way, and Scrum is some kind of a framework to manage the software product development ,with its iterative and incremental development phases, it is willing to ask customers feeling, and let developers know clearer of their tasks. With the increasing of pressure to response to their customer's changing requirements ,Agile and Lean software development would be a way is more adaptable to part of some software market.

Scrum development members should not surpass ten members, the best members is 5-10, and require each member have strong awareness of self-control. So it's quality and easy-using. We have 7 members, so it is suitable to use such model.

In my point of view, Scrum's idea is Quick Delivery. With the fierce competition today, quick delivery means seizing the market. And our project has kept following the customer's requirement, so Scrum has strong adaption.



How did we follow Scrum methods?

Our meeting:

1. Backlog planning meeting
2. Daily Stand-up meeting
3. Sprint Retrospective Meeting

Our necessary questions:

What did you do ?
What are you going to do?
Have you met some problems during the development?

What do you think is good during the last sprint?
What do you think is not well during the last sprint?
Which part/How could we change/improve in the next sprint?

Respond to the principles:

- **Welcome Changing requirements**
---keep communicating with our customer
- **Satisfy our customer**
---our customer was satisfied with our deliveries
- **Deliver frequently**
---Can deliver after one or two weeks
- **Motivated individuals**
---Our motto is "Trust each other"
- **Improvement**
---retrospect & improve
- **Eliminating waste**
---focus on the primary function

Lifecycle:

Sprint Planning-Daily Standup-Sprint
Execution and review-Retrospective

Figure 2. BTH Banking comply with Scrum & Lean

iv. Budget, lead-time and major events

Start date: 8-Sep-2017

Event: know about each other ,talk about scrum and lean development method, plan to create requirements list.

First delivery period: 8-Sep-2017 to 19-Sep-2017

Event: we finished home page, registration page, login page, account information, and some registration format constraint of our website. During this period, we updated sprints and daily-standup files, and drew burn down chart meanwhile.

Second delivery period: 19-Sep-2017 to 28-Sep-2017

Event: follow the metrics, we improved the email format restriction, and we finished transfer, deposit, view balance functions, and our pie chart function is easy to know customer's expenditure.

Third delivery period: 1-Oct-2017 to 12-Oct-2017

Event: We finished the give feedback function, users can return rating for us. Users also can read some financial development services from our website, it has abundant articles. And we drew the VSM.

End date: 12-Oct-2017

Event: display our product, exchange our problems we met and how we solved with other groups, shared our experience and feeling when we using scrum to develop software.

v .Procedures and Routines

We defined our **procedure** like: product backlog (create--first step and choose user stories by customer),then is Sprints, we assigned tasks, during development, we got daily-standup meetings, before this current phase delivery, we drew burn down chart. Then we deliver Demo to customer, after delivery, we held retrospective meeting, and recorded in Metrics.

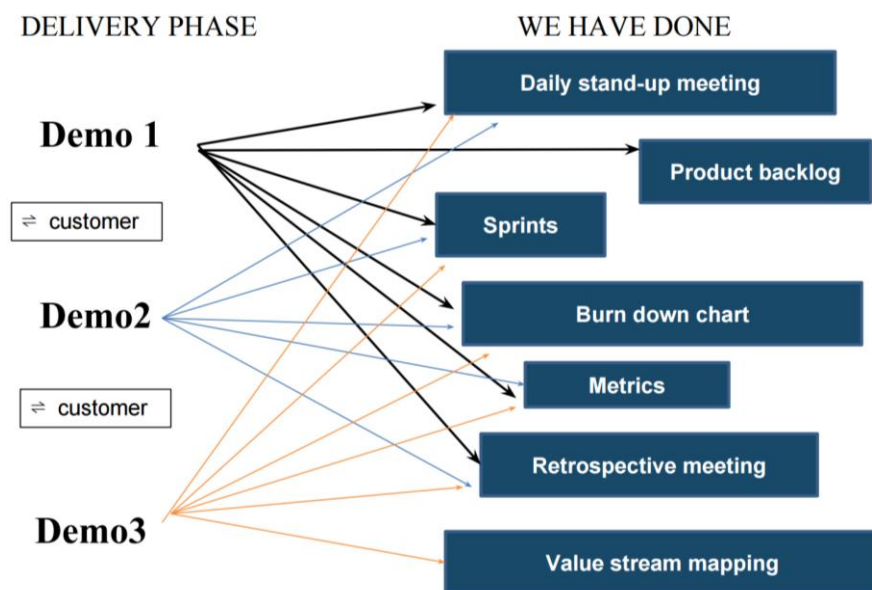


Figure3. BTH Banking project procedure

Version Control: we give the modified documents named as "filename_1", "filename_2", "filename_3"...we upload the file into Google drive, so we also see the latest date. We backup our code and documents each time we would modify them.

Risk management: We used VSM and burn down chart to follow up our project, if the time far away from our estimated time, we should hold a meeting immediately, and solve that problem together.

Code standard: 1.canonical annotation 2. logical indention 3.more easily accessible through testing

Some basic mistakes we cannot make, such as java language syntax mistakes, then is the database key value constraints etc.

CO: change over time
PC/T: plan cycle time
CT: cycle time

Production Control

Product Backlog & Sprints

Requirement & Weekly FeedBack

Supplier/Development Team

customer

AGILE & LEAN WEEKLY PLAN

weekly

Weekly

Home page
LINGDIANG RUAN
Num.open: 1
PC/T: 2 d
CT: 1 d
CO: 1d
1day

Registration & Login page
BONG PENG, PAVAN
Num.open: 2
PC/T: 6 d
CT: 8 d
CO: 2d
2days

Test & TestCases
DINNS
OLSEN, Sowgandh, Sujet
Num.open: 3
PC/T: 3 d
CT: 2 d
CO: 1d
2days

Deposit, Transfer & view balance
Pavan, Abhi
Num.open: 2
PC/T: 7 d
CT: 10 d
CO: 3d
3days

Test & TestCases
DINNS
OLSEN, Sowgandh, Sujet
Num.open: 3
PC/T: 3 d
CT: 2 d
CO: 1 d
2days

Development advice & Customer Rating
PAVAN, AKK
Num.open: 2
PC/T: 7 d
CT: 6 d
CO: 1d
3days

Test & TestCases
DINNS
OLSEN, Sowgandh, Sujet
Num.open: 3
PC/T: 3 d
CT: 3 d
CO: 0d
2days

1day 1day 0day 2days 1day 0day 1day 1day 0days 3days

18days: 18 days
18d time: 9 days

User Stories	Story Points	Development Tasks	Analysis	Development	Testing	Internal Review	Deployment	Delivery Date
Demo 2 (9 Working days - 19-Sep-17 to 28-Sep-17)	32							
Registration user interface mandatory fields	1	Development of registration user interface mandatory fields	Done	Done	Done	Done	Done	2017-Sep-19
user, I want to be able to transfer money to other account so that I can pay for it	7	Write user interfaces for Transfer funds and Bills Pay	Done	Done	Done	Done	Done	2017-Sep-19
		Develop back end service for Funds transfer and bills pay	Done	Done	Done	Done	Done	2017-Sep-20
		Develop Email notification for funds transfer and bills pay	Done	Done	Done	Done	Done	2017-Sep-21
		Develop Transactions update service for funds transfer and bill pay	Done	Done	Done	Done	Done	2017-Sep-21
		Write user interfaces for Transaction statements	Done	Done	Done	Done	Done	2017-Sep-22
As a user, I want to be able to view my account statements so that I can see the history of my account.	8	Develop back end service for historical statement	Done	Done	Done	Done	Done	2017-Sep-25
As a user, I want the bank to be easily used so that it doesn't take a long time to use.	2	Develop flexible website, easily used so that it doesn't take a long time to use.	Done	Done	Done	Done	Done	2017-Sep-25
As a user, I want to have financial advice so that I can save money.	8	Develop and include Pi chart view to the statement page	Done	Done	Done	Done	Done	2017-Sep-26
		Develop service to pull the transactions of the account and display as Pi chart	Done	Done	Done	Done	Done	2017-Sep-27
As an admin, I want to be able to deposit any amount to any account so that I can fix transfer problems if they occur.	6	Develop Admin login user interface	Done	Done	Done	Done	Done	2017-Sep-28
		Develop User interface to deposit as admin	Done	Done	Done	Done	Done	2017-Sep-28
		Develop Service to deposit money	Done	Done	Done	Done	Done	2017-Sep-28

User Stories	Story Points
Demo 2 (9 Working days - 19-Sep-17 to 28-Sep-17)	32
Registration user interface mandatory fields	1
user, I want to be able to transfer money to other account so that I can pay for it	7
As a user, I want to be able to view my account statements so that I can see the history of my account.	8
As a user, I want the bank to be easily used so that it doesn't take a long time to use.	2
As a user, I want to have financial advice so that I can save money.	8
As an admin, I want to be able to deposit any amount to any account so that I can fix transfer problems if they occur.	6

Development Tasks	Analysis	Development	Testing	Internal Review	Deployment
Development of registration user interface mandatory fields	Done	Done	Done	Done	Done
Write user interfaces for Transfer funds and Bills Pay	Done	Done	Done	Done	Done
Develop back end service for Funds transfer and bills pay	Done	Done	Done	Done	Done
Develop Email notification for funds transfer and bills pay	Done	Done	Done	Done	Done
Develop Transactions update service for funds transfer and bill pay	Done	Done	Done	Done	Done
Write user interfaces for Transaction statements	Done	Done	Done	Done	Done
Develop back end service for historical statement	Done	Done	Done	Done	Done
Develop flexible website, easily used so that it doesn't take a long time to use.	Done	Done	Done	Done	Done
Develop and include Pi chart view to the statement page	Done	Done	Done	Done	Done
Develop service to pull the transactions of the account and display as Pi chart	Done	Done	Done	Done	Done
Develop Admin login user interface	Done	Done	Done	Done	Done
Develop User interface to deposit as admin	Done	Done	Done	Done	Done
Develop Service to deposit money	Done	Done	Done	Done	Done

Figure 5. BTH Banking Sprint2

User Stories	Story Points	Development Tasks
Demo 1		
As a user, I want to be able to register an account so that I have an account.	5	Develop user interface for registering page
		Write back end logic to store the registration details in to database
		Write Email notification back end logic on user registration
As a user, I want to be able to login to my account so that I can access my account	3	Develop user interface for login page
		Write back end logic to validate user credentials

User Stories	Story Points
As a user, I want to be able to register an account so that I have an account.	5
As a user, I want to be able to login to my account so that I can access my account	3

Development Tasks
Develop user Interface for registering page
Write back end logic to store the registration details in to database
Write Email notification back end logic on user registration
Develop uesr Interfce for login page
Write back end logic to validate user credentials

Figure 6. BTH Banking Sprint1

I.

First delivery:

Promise: As a user you can register and login your account.

We finished home page, registration page, login page, registered information will send to your registered email, and added some registration format constraint of our website. During this period, we updated sprints and daily-standup files, and drew burn down chart meanwhile.

Second delivery:

Promise: As a user you can get normal bank services and see the changes in your account, and you just need to follow by the advice and you can easily see the expenditure from your account.

We improved the email format restriction following the metrics, , and we finished transfer, deposit, view balance functions, and our pie chart function is easy to view customer's expenditure.

Third delivery:

Promise: As a user you can get the financial development advice and feedback function.

We add feedback function, but we don't have time to finish the online help function. And we add rating part, by using the checkbox to save the users' feeling of our website. And we also give financial advice from blog articles.

II.

We didn't deviate from our goal, just have something skill problems such as how to generate the dynamic pie chart and how to correspond the both accounts' balance, so we study for a period, and deviate from our estimated days. But both our content and effort are forward in the right direction , so we are not deviate from our goal.

Technical solution

I.

Windows 10 as our OS, JavaScript, JSP, CSS is used to design pages, Spring MVC controls the logic, Oracle Database saves the users' information.

II.

JavaScript designs the pages more dynamic, Java Spring MVC is a framework, easy to use. The rating function is the challenge, at first time we wanted to design some rating function like Facebook's, but later we don't have so much time, we use checkbox.

Planning and estimation

I. figures and graphs present by following:

- Planned vs. Actual effort per sprint/iteration

Development Tasks
Develop user interface for registering page
Write back end logic to store the registration details in to database
Write Email notification back end logic on user registration
Develop user interface for login page
Write back end logic to validate user credentials

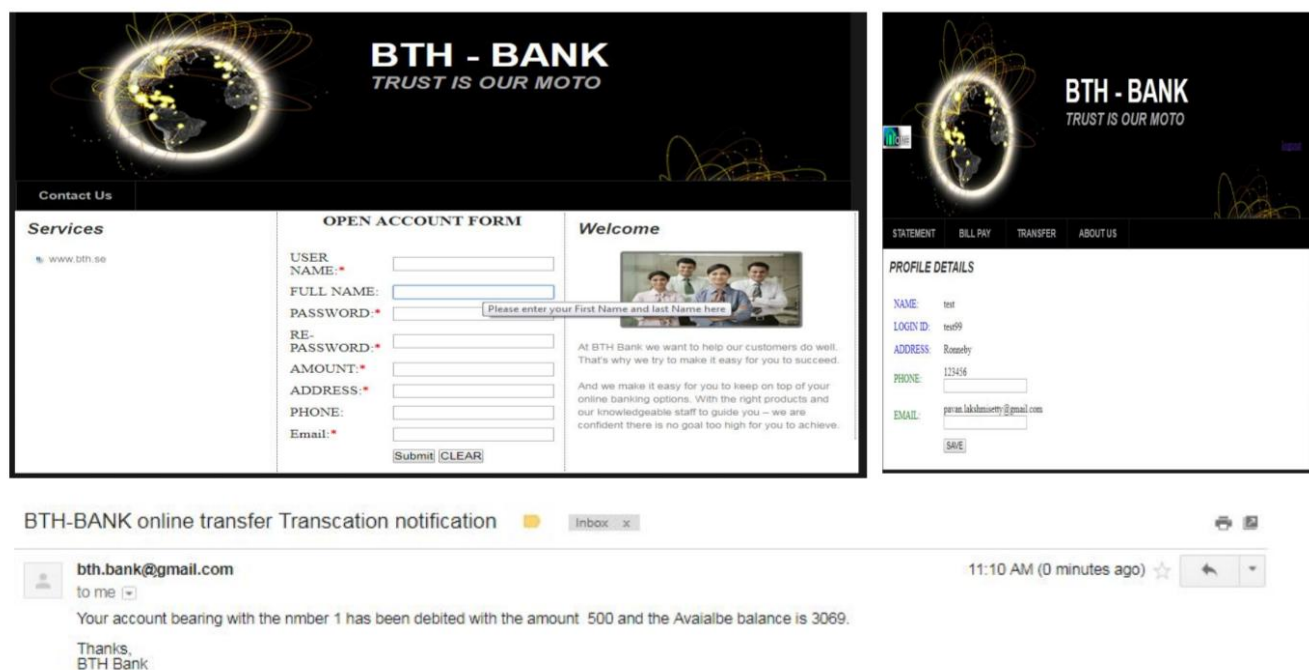
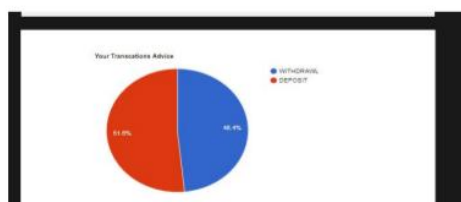


Figure 7. BTH Banking Sprint1& Result pic

Development Tasks
Development of registration user interface mandatory fields
Write user interfaces for Transfer funds and Bills Pay
Develop back end service for Funds transfer and bills pay
Develop Email notification for funds transfer and bills pay
Develop Transactions update service for funds transfer and bill pay
Write user interfaces for Transaction statements
Develop back end service for historical statement
Develop flexible website, easily used so that it doesn't take a long time to use.
Develop and include Pi chart view to the statement page
Develop service to pull the transactions of the account and display as Pi chart
Develop Admin login user interface
Develop User interface to deposit as admin
Develop Service to deposit money



ABOUT US					
ACCOUNT No	TRANSACTION DATE	NARRATION	WITHDRAWAL	DEPOSIT	BALANCE
1	Wed Sep 27 19:08:17 CEST 2017	Cash deposited through Bank	0	400	10428
1	Wed Sep 27 18:49:06 CEST 2017	Cash deposited through Bank	0	200	10028
1	Wed Sep 27 18:37:10 CEST 2017	Cash deposited through Bank	0	500	9828
1	Wed Sep 27 18:16:14 CEST 2017	Cash deposited through Bank	0	400	9328
1	Wed Sep 27 18:14:55 CEST 2017	Cash deposited through Bank	0	400	8928
1	Wed Sep 27 18:12:20 CEST 2017	Cash deposited through Bank	0	500	8828
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1	Wed Sep 27 18:04:45 CEST 2017	Cash deposited through Bank	0	200	7128
1	Wed Sep 27 18:04:00 CEST 2017	Cash deposited through Bank	0	500	6928
1	Wed Sep 27 18:03:47 CEST 2017	Cash deposited through Bank	0	500	6428
1	Wed Sep 27 18:03:33 CEST 2017	Cash deposited through Bank	0	500	5928
1	Wed Sep 27 18:03:11 CEST 2017	Cash deposited through Bank	0	500	5428
1	Wed Sep 27 18:00:32 CEST 2017	Cash deposited through Bank	0	500	4928
1	Tue Sep 19 20:59:59 CEST 2017	Cash deposited through Bank	0	885	4428
1	Tue Sep 19 20:59:01 CEST 2017	online by 23	0	441	3843
1	Thu Sep 28 14:59:16 CEST 2017	Cash deposited through Bank	0	41	8069
1	Thu Sep 28 14:56:04 CEST 2017	Bill Pay	100	0	8028
1	Thu Sep 28 14:55:22 CEST 2017	Bill Pay	100	0	8128
1	Thu Sep 28 14:54:58 CEST 2017	Bill Pay	100	0	8228

Figure 8. BTH Banking Sprint2& Result

Please provide your rating here ...

RATING:

SELECT RATING
 SELECT RATING
 ONE (POOR)
 TWO (AVERAGE)
 THREE (SOME WHAT GOOD)
 FOUR (GOOD)
 FIVE (OUTSTANDING)

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BTH BANK USER RATING IS: **3.3**

BTH - BANK
TRUST IS OUR MOTO

STATEMENT VIEW BALANCE BILL PAY TRANSFER FINANCIAL PROFILE ABOUT US

DEVELOPMENT

Results

This is Global Business bank which is under business and finance.

We used results to drive growth in all our major income lines while significantly improving our operational efficiencies, evidenced in the moderation of our cost to income ratio at 31 percent.

Opportunities

These Global Business bank would be able for building a successful online businesses for secure transactions.

Earnings growth for the financial sector is quite positive and has been revised higher in the past several quarters.

Solutions

There are various categories like Online Services, Online Payments, Finance...

Services
<https://www.bth.se/>

Welcome

At BTH Bank we want to help our customers do well. That's why we try to make it easy for you to succeed.

And we make it easy for you to keep on top of your online banking options. With the right products and our knowledgeable staff to guide you -- we are confident there is no goal too high for you to achieve.

News & Events

Sep. 10, 2017.
BTH Bank have a network of about 24,000 branches and more than 1 million customers of which there are six thousand savings accounts.

Sep. 12, 2017.
The key Federal Reserve funds interest rate has risen from a low of range of around 0.1 percent in late 2016 to a rate approaching 1.2 percent after the most recent interest rate increase in September.

BTH - BANK
TRUST IS OUR MOTO

DEPOSIT

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Figure 9. BTH Banking Sprint3 's Result

- Planned vs. actual progress per sprint/iteration

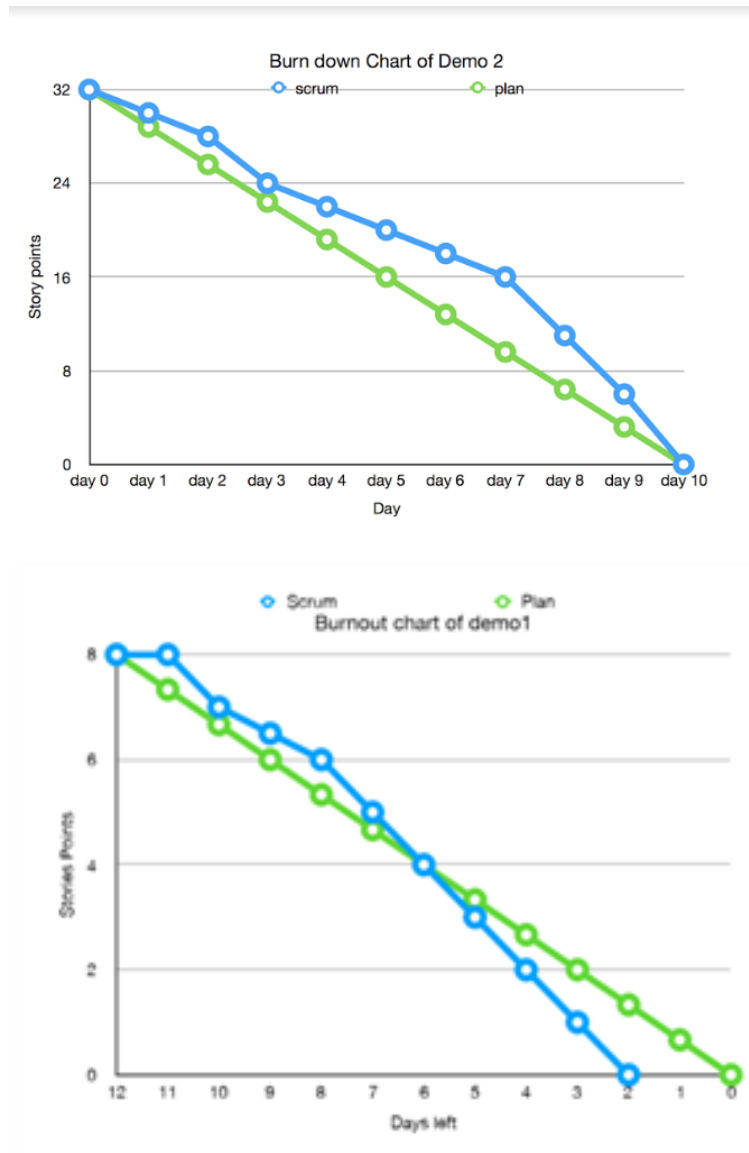


Figure 9. BTH Banking burn down charts

- Planned vs. actual result/outcome per sprint/iteration

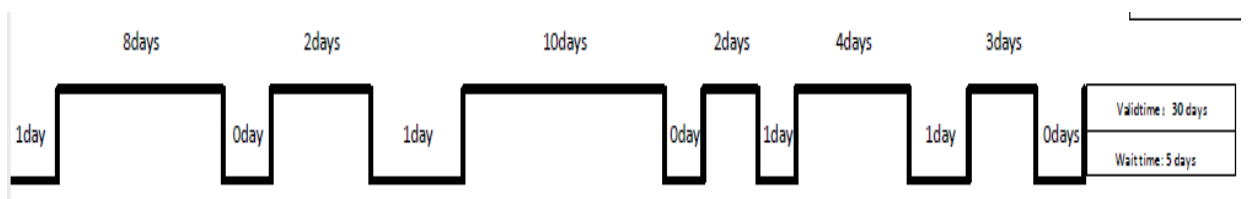


Figure 10. BTH Banking actual time

Figure 10. BTH Banking actual time and result

II. Analysis of deviations, reasons etc.

Sometimes We deviated from the estimated days often because we studied the relative skills knowledge. And we need to hold meetings and exchange idea. So our test cases period had to hurry up ,but fortunately, our testers are skillful at testing, so we can get back to our plan, and deliver in time.

Risk management

I.

We used VSM and burn down chart to follow up our project, if the time far away from our estimated time, we should hold a meeting immediately, and solve that problem together. The time we calculated in Value Stream Mapping and the deviation on the burn down chart can identify the risks.

II.

We miss the system security risks and the labor cost, the first one because our group really lack of website security talents, so it cannot be dealt. The last one because we are a school requirement project, o we didn't care about the labor cost. But in real market, we cannot gather 7 people in one project and which cannot be equally distributed. The labor cost may be a little waste.

III.

Because we developed banking system website, so we need more security aspect knowledge, we initially identified it as serious risks. But later because our limited time to deliver and our group doesn't have website security talents, so we just give up this part. But the product have finished yet we have began to think about the risk of account security risks.

Process, Routines, Procedure

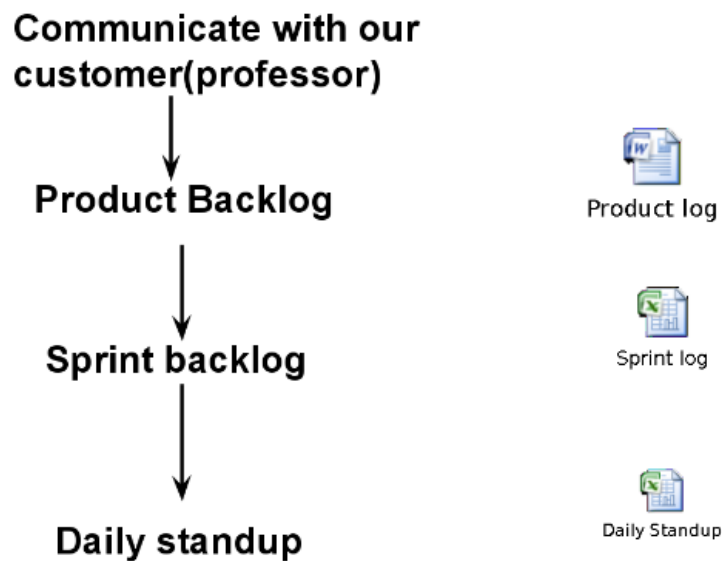


Figure 10. BTH Banking development process

I. Product backlog (create--first step and choose user stories by customer), then is Sprints, we assigned tasks, during development, we got daily-standup meetings, before this current phase delivery, we drew burn down chart. Then we deliver Demo to customer, after delivery, we held retrospective meeting, and recorded in Metrics.

II. We did very well in this process, every members follow their own responsibility. Even sometimes we didn't finish as our estimated days, but later we can finish the task in time.

III. About the evaluation of our routines and procedures I think most of the development process worked well, but meeting documents are too many, members will need to save time do the files.

Test and product quality (Small teams only)

I. Applied test approach and test statistics (what was tested when and how?)

Manual testing approach. Manual testing is nothing but opening the application in the browser and checking the expected functionality.

At sprints each task of development activity, we have tested the functionality. Here use the daily standup document.

II. Defect statistics and defect detection and correction effort.

Sprint1: defects identified by testing team: 2 (user access getting created eventhough email id is wrong, balance is not showing measurement(SEK))
correction effort: defect1- 4 hrs to implement the scripting validation, defect2- 1 hr

Sprint2: 1 defect: statement not viewed in ascending order
correction effort: prepared statment sql query change(1 hr)

Sprint3: 1 defect: user got the option enabled to submit the ratings multiple times
correction effort: 4hrs(new data table field to track the submitted users)

2.Final reflections and conclusions

Based on the project follow up information presented in the previous section formulate, that's my conclusion:

Analysis of the product/delivery

I.What is satisfying according to the team:

We are satisfying about our coordination, our atmosphere. Every meetings our members will attend in time, and during our development, we trusted each other. And responding to the principles of Lean, we eliminating, and create knowledge. We gave up developing weather function before transfer function because it would waste our limited time .We can reach an agreement in peace.

II.What needs improvement, not completely done, according to the team :

we could improve the website's function, we could add the online help ,it would be much easier use than the old version. Because if users really do not how to use some functions,they can get some help by online services. We thought we need the some existing enterprise web services,it is not completely done.

III.Criteria for project acceptance, how well they were fulfilled.:



Evaluation criteria

Examining of application.

► **User stories:** tell the customer's requirement clearer,simplified to record, clear out the emergent tasks.

► **VSM:** the overview process of the project, the working time and the waiting time are worth considering.

► **Metrics:** satisfaction,quantity,quality,maturity

Figure 11. BTH Banking Evaluation criteria

We can use User stories to check out whether our requirements are clear enough. User Stories stand for customers' appeals. Then is VSM, you can check the overview of project development, our time-consuming condition, how much

time is the real working time, how much is the preparing time. The last one is our Metrics. We have used satisfaction, quantity, quality, maturity as metrics, to retrospect each delivery, whether our customers are satisfied, and how well during the last Sprint development, how could we improve.

V. Project Deliveries

● First delivery:

Promise: As a user you can register and login your account.

We finished home page, registration page, login page, registered information will send to your registered email, and added some registration format constraint of our website. During this period, we updated sprints and daily-standup files, and drew burn down chart meanwhile.

● Second delivery:

Promise: As a user you can get normal bank services and see the changes in your account, and you just need to follow by the advice and you can easily see the expenditure from your account.

We improved the email format restriction following the metrics, , and we finished transfer, deposit, view balance functions, and our pie chart function is easy to view customer's expenditure.

● Third delivery:

Promise: As a user you can get the financial development advice and feedback function.

We add feedback function, but we don't have time to finish the online help function. And we add rating part, by using the checkbox to save the users' feeling of our website. And we also give financial advice from our blog articles.

Our customer is satisfied with our project, because we developed following our product backlog, and our product backlog is totally complied with customer's appeals. Our frequent and effective deliveries is the feature of our group.

Decision making

Scrum model decision: We decided to implement agile and lean develop our banking system.

Java and Spring MVC and JavaScript, JSP, HTML, and CSS.: we decided this language because most of our members are good at this language. We also discussed about whether using PHP to design, may be faster, but most of us are not grasping this language, so we turned to use JavaScript, JSP, HTML, and CSS.

Wrong Bandwidth estimation: Delivered more on first sprint due to wrong estimation of bandwidth.

Negative scenarios Testing: During demo we have observed a bug raised for negative scenario which was not our approach earlier. so we have taken that one from next development.

During sprint three story points that were considered are more, due that team had stretched their work hours to finish the things as a result quality of development.

Team training: Team has taken training on scripting technology which helped to create interactive pages effectively.

Team analysis

Our team members can get along well with each other, trusting each other, and we also got quick feedback from customers: We follow the Scrum to develop this product and it is different from the traditional waterfall model we can break down it to the several parts and show it to the customers to get the feedback from them to change the product to become a better one.

We focus on core-function : We have the brain storm and list lots of user stories about this project, but in three demos we present the most important functions of them. Because we want to create the maximum value of this product.

However, our weakness is most of us are only good at JAVA , so only we can use this relative language but create less knowledge. And be honestly ,our team members average coding capability are not strong enough to manage more complex tasks, so we need to improve programming skill.

Challenges:

Tooltip feature incorporation

Sprint closure

Availability of team members

Daily standup schedule

Way of handle:

we conducted meeting one after another day. Some team members who still not able to attend the meeting has the provision to send the task note through messenger to the scrum master

We have expanded JQuery library features to achieve them

Even though all the sprints are successful sprints with minor bugs, team has worked more to complete them

Due to health issues when one of our key development resource is not available, someone from documentation team member has taken up the challenge and completed the task

Main project events and experiences

During this project development, I follow customers' changing requirements, and begin to create product backlog and Sprints, have drew VSM and tracing developer team's process then gave suggestion to the time held meetings.

The main event for me is not the delivery date, but the begin of the project, at the beginning ,most of us are not clear about how to implement Scrum and Lean, I surf net and make clear about the values we need to consider, and clear about the order of the development, then I ask them to attend the meeting, when I made sure all of them are clear, we divided our tasks. In my opinion, everything is most difficult when it before start.

The thing we worried about the most is the security problem, but it doesn't become a problem now, because there is no any hacker see our website and attack our system, but that doesn't means we don't need to consider. However, that' s pity none of us grasps knowledge of network security, so there is an existing risk.

We want to try to use PHP language to design our web pages if we have next opportunity develop software together.

And one of the common problem is our expressive language ability, four of us are Indians, and two of us are Chinese, the last one is Swedish, so English is our communicate bridge and it becomes the significant factor of our communication,

but we can't understand each other properly, so we also need to improve our English.

Our team's evaluation criteria managed well, and our project is successful and easy to use, at the same time we can deliver fast, which makes me feel proud of. To sum up, Scrum model is a useful development way, and our team also has things need to improve.