

Institute of Information Technology, University of Dhaka

Bachelor of Science and Software Engineering (BSSE)

Course Code: SE-701



Internship Report

Submitted by

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BSSE-0312

Submitted to

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Performed at

Progoti Systems Limited

Banani-11, Dhaka



Internship attended: 12th January – 30th May, 2014

Date of Submission: 1st June, 2014

Letter of Transmittal

1st June, 2014

Dr. Kazi Muheymin-Us-Sakib
Associate Professor, Program and IPO Chair BSSE
Institute of Information Technology
University of Dhaka

Honorable Sir,

Subject: Submission of Internship Report

I am glad to present you this internship report based on, my experience and learning during my internship program at Progoti Systems limited, starting from January 12 to June 30, 2014. During this period, I worked under the supervision of Md. Abu Raihan, Director of Engineering, Afzalur Rashid, Senior Vice-President of Engineering, Md. Golam Azom and Khadija Ashraf, Senior Software Engineer, Progoti Systems Limited.

I assure you that this report has been written by me and has not received any previous academic credit at this or any other institution. The report has not been submitted to any conference, program or individual other than the concerned institution.

I hope that the report will reflect my learning during the internship program and you will find it quite interesting and worthy of exploration.

Sincerely yours,

Md. Mostafijur Rahman
Roll No: BSSE 0312
BSSE, 7th Semester
Institute of Information Technology
University of Dhaka

Letter of Endorsement

To Whom It May Concern

Subject: Approval of the Report

This letter is to certify that, the project namely SureCash and tools & technologies mentioned in this document have been successfully completed by Md. Mostafijur Rahman, BSSE 0312, Institute of Information Technology, University of Dhaka. The project was productive enough to meet the company's demands.

I wish him all the best and hope that he will lead a successful career.

Dr. Shahadat Khan
Chief Executive Officer (CEO)
Progoti Systems Limited.

Supervisor's Approval

To Whom It May Concern

Subject: Approval of the Report

This letter is to certify that, the project namely SureCash and tools & technologies mentioned in this document have been successfully completed by Md. Mostafijur Rahman, BSSE 0312, Institute of Information Technology, University of Dhaka. The project was productive enough to meet the company's demands.

I wish him all the best and hope that he will lead a successful career.

Afzalur Rashid

Senior Vice President of Engineering,
Progoti Systems Limited.

Acknowledgement

I would like to express my deepest gratitude to Dr. Kazi Muheymin-Us-Sakib, Associate Professor, Program and IPO Chair BSSE, Institute of Information Technology, University of Dhaka for his kind support and inspiration which has immensely strengthened my confidence during my internship program.

I owe my profound sense of gratitude to Dr. Shahadat Khan, CEO of Progoti Systems Limited for providing me internship opportunity at Progoti Systems Limited.

I am very much grateful to Md. Abu Raihan & Afzalur Rashid for their kind help and co-operation during my stay at Progoti Systems Limited. They had managed all the things that I have asked for and always provided the solutions to the problem that I faced during the completion of my projects. Without their advices, I might have sprawled and the projects might have ended in a failure.

I am also very much grateful to Md. Golam Azom and Khadija Ashraf for their great support as my team leader of different projects. Their guidance has led me this far which I can never forget.

Executive Summary

A student cannot ask for a better opportunity than an internship, to implement his/her hard learned theoretical knowledge to the tougher practical world. Being a student of Institute of Information Technology (IIT) I was provided with that wonderful opportunity of having an internship within the bachelor program.

I was sent to Progoti Systems Limited to complete my internship. It is a new, young vibrant company having experienced dedicated IT professionals/ Engineers. I found myself rather lucky by getting chance to work in such an environment that Progoti Systems Limited provides. I got introduced to some of the new terms like flat hierarchy, scrum etc.

This report is prepared on the basis of my six months practical experience at Progoti Systems Limited. This internship program helped me to learn about the practical implementation of technical knowledge of a software engineer as well as process of mobile banking. Progoti Systems Limited is a dynamic and leading countrywide mobile banking and software solution provider. It is a joint venture company between Canada and Bangladesh. Progoti Systems Limited, formerly known as its own name, commenced its operation in 2010. Later, on 1st January 2012 the company started its new journey with the brand name SureCash. This report has been presented based on my observation and experience gathered from the company. The organization has many divisions and departments but this report mainly focus on Engineering Division as I only got the opportunity to work in this division. The report mentions about the facilities and benefits Progoti Systems Limited provides to their employees.

The projects that I worked in certainly helped me by increasing my knowledge depth. The research and development projects were particularly helpful in widening my views.

Keeping the coding apart, there were also a few more challenges. Some of them were technical and some were non-technical. Coming almost at the end of my internship, I discovered that, some of my communicative and management skills have been improved to a great extent even. Besides, there were some vital lessons which will obviously help me in my future jobs.

The report also consist recommendations and conclusion according to my point of view, which I think would improve the environment of the organization if implemented. It is hoped that this report would serve as a cardinal vehicle to the improvement of the internship program.

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Chapter 1

Introduction

Chapter Objectives:

1. Foreword of report and internship
2. Objectives of the report
3. Scope of the report
4. Overview of the document

1.1 Prologue

Generally, an internship consists of an exchange of services for experience between the student and an organization. Students can also use an internship to determine if they have an interest in a particular career, create a network of contacts or gain school credit. Some interns find permanent, paid employment with the organizations for which they worked. This can be a significant benefit to the employer as experienced interns often need little or no training when they begin regular employment. Internships (also called "**placements**", "**work placements**" or "**industrial Placements**") may be part of academic course. It planes the distance between academia and industry by making a bridge.

Internships provide the students a chance to relate their theoretical knowledge with the tough real world environments. Moreover, if the internship is within a bachelor program and the students have to return to the academia after completing it, the skills that they have developed during the internship help them to gain a more sound academic result.

Institute of Information Technology (IIT) provides that glorious opportunity to their students of having an internship within their bachelor program. I being one of the lucky ones to study in IIT was send to Progoti Systems Limited to complete my internship. With having a job count of zero, I joined Progoti Systems Limited as an intern on 12th January, 2014. The expectations were high and now almost at the end of my internship I must admit that it was really a wonderful experience.

At the beginning of the internship I formulated several learning goals, which I wanted to achieve:

- understand the functioning and working conditions of a non-governmental organization;
- see what is like to work in a professional environment;
- see if this kind of work issuitable for my future career;
- use my gained skills and knowledge;
- see what skills and knowledge I still need to work in a professional environment;
- work in a team;
- learn about how to manage a software project (planning, organizing etc.);
- get experience in working with persons from other fields;

- enhance my communication skills;
- build a network with experienced professional.

The journey wasn't that simple. There were many obstacles, new technologies that I have to handle with, yet after overcoming each challenge I had discovered a new potential within myself. The skills that I have gathered are priceless to me and I cannot wait to apply those in the upcoming semesters. In addition to that, some of the non-technical skills that I have procured, combined with those technical skills will certainly prove handy in my future jobs.

In this internship report I will describe my experiences during my internship period. The internship report contains an overview of the internship company and the activities, tasks and projects that I have worked on during my internship. Writing this report, I also will describe and reflect my learning objects and personal goals that I have set during my internship period.

This internship report contains my activities that have contributed to achieve a number of my stated goals. In the following chapter a description of the firm Progoti Systems Limited and the activities is given. After this a reflection on my functioning, the unexpected circumstances and the learning goals achieved during the internship are described. Finally I give a conclusion on the internship experience according to my learning goals.

1.2 Motives of Document

This report has been prepared as a requirement of the internship program of the degree BSSE. The report will definitely enrich the knowledge of the students from upcoming batches regarding the workplace environment. Using that knowledge they may prepare themselves appropriately for their future internships. In addition to that, the report is intended to reflect my achievements, project works and professional growth during the intern period. Besides, anybody looking for a short detail about Progoti Systems Limited may find this report useful.

1.3 Purview of Document

This report gives an insight of the experience that I faced in my workplace. A brief description of Progoti Systems Limited is included so that other students can get to know about the company and may decide whether it is suitable for them or not. My daily work schedule is also included to give a clear view about the life at Progoti Systems Limited.

If internships are about gathering skills then projects are the main way of gathering them. Till writing this report I have completed three R&D projects and developed in-house software on Mobile Banking. The tasks, timeline and results of those specific projects are included for a better visualization of industry standard projects.

An internship may not run as smoothly as it is expected. There may be a lot of challenges but there is a lot to learn from them. The challenges that I have faced over this period of time are discussed in this document. The skills which include both technical and non-technical ones are also a vital part of this report. And last but not the least, some recommendations are proposed which if worked out may provide some benefits to the future interns going to Progoti Systems Limited.

1.4 Documents Overview

The next chapter, Company's Profile of this document explains an overview of the basic information such as physical location, year of establishment, the type of work the company performs, company's capabilities, resources and financial stability. The third chapter illustrates the Workplace details which demonstrate the structure of the company, SWOT analysis, Respective clients and Technical Expertise of the company. Chapter four presents the research & Development and my involvement in the projects and the chapter five demonstrates how much professionalism I could achieve after internship.

1.5 Conclusion

In this chapter, I have discussed about the overview of the internship experience, document purpose, and overview of this whole document and definition of some used term in the document which will provide a clear view to the reader of this document about the purpose of this document.

Chapter 2

Company's Profile

Chapter Objectives:

1. About Progoti Systems Limited
2. Vision & Mission
3. SWOT analysis
4. Organizational Structure
5. Solutions & Services
6. Quality of Products

2.1 About Progoti Systems Limited

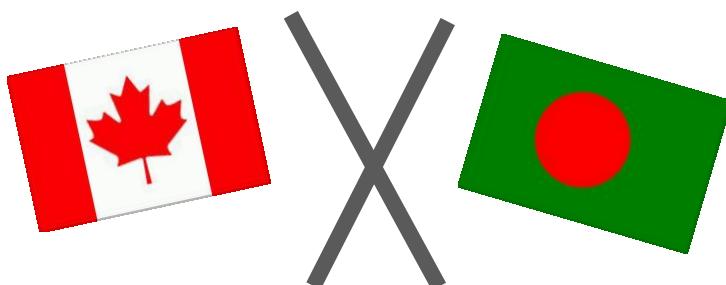
Progoti Systems Limited, a Canada-Bangladesh-Japan joint venture is a leading provider of mobile banking, payments and remittances processing solutions and services in Bangladesh. The company is founded by a team of technology and business veterans with a host of global and local experience in the field.

Progoti's vision is to build mass banking and payment platform for any person having a mobile phone. There are billions of people in the world who have mobile phones but no bank accounts, and Progoti would like to provide financial services to them. A team led by technology and business veterans.

Progoti provides software solutions and managed services to banking, financial services and electronic commerce sectors. Progoti's products and services include:

- Secure and feature-rich software solution and managed services to provide mobile and branchless banking to banks and their customers
- Electronic payments solution and services connecting banks, merchants, utility companies, governments, online shops etc.
- Comprehensive foreign remittance solution and managed services connecting local and foreign banks, exchange houses and disbursement points.

Progoti Systems Limited started its journey from 2010. Its local headoffice is located at Khawaja Palace 4F, 76/B, Road 11,Banani, Dhaka 1213, Bangladesh and Canadian office at 6091 Empress Ave, Burnaby BC, V5E 2S4, Canada. Progoti's head office at Singapur and there Progoti is registered as SureCash PTF.



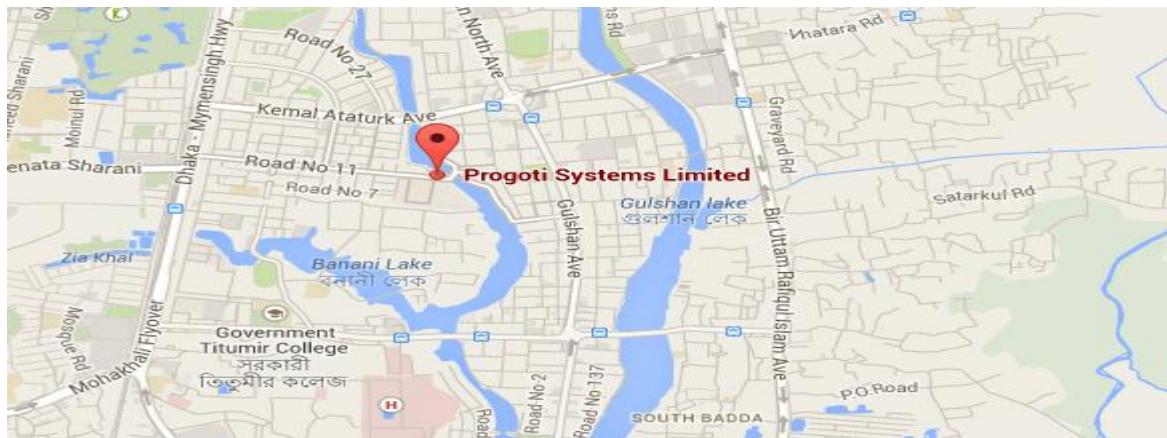


Figure: Progoti's Location at Map (Courtesy: Google Map)

Progoti Systems Limited started journey with exciting idea of mobile banking. To compete with its existing competitor it thinks differently from the other mobile banking service provider. It has a group of dedicated designers, engineers and content specialists.

2.2 Vision & Mission

Vision means the lifetime goal and mission is the steps to fulfill or achieve the goal. Without proper vision and mission a company cannot sustain. So as a software development company our company has a goal and our company has some preplans to achieve the goal. The vision and mission of our company is presented in the sub-sections below.

2.2.1 Vision of Progoti System Limited

Progoti's vision is to build mass banking and payment platform for any person having a mobile phone.

2.2.2 Mission of Progoti Systems Limited

Progoti's mission is to become a leading mobile banking and payment services network by connecting people banks and businesses.

2.3 Solutions & Services

Progoti systems Limited develops self-solution and provides online banking services among the mass people. People of different classes high to low, young to adult can get benefit from this service at anytime from anywhere. Solutions and services provided by Progoti Systems Limited also known as SureCash are described below.

2.3.1 Solutions

As a software firm, Progoti System Limited develops solution and solutions are also consumed by its Stakeholders. Some of the major solutions provided by Progoti Systems Limited are described below.

2.3.1.1 SureCash

SureCash is a Mobile Financial Service (MFS) network offering a hosted mobile banking and payment services involving banks, NGOs, mobile network operators and payment affiliates such as utility companies, merchants/retailers, employers, insurance organizations and government departments. The primary advantage of SureCash is that the platform is multi-network and inter-bank. This gives customers the flexibility to use any mobile operator to use the services of any bank that has signed up on the SureCash network.

Progoti's SureCash network offers the following differentiations

- Open ecosystem in participation of multiple banks (currently with three banks)
- SureCash enables joint branding with bank (such as FSIBLFirstPay SureCash, BCB SureCash and NCCB SureCash)
- No CAPEX, low risk for banks
- Enables quick rollout of robust products
- End-to-end secure channel using own USSD gateway
- Patent-pending technology for enhanced security and user-friendliness
- Developed and supported in Bangladesh

SureCash network works with five categories of partners: banks, end-users, mobile operators, retail agents and payment affiliates.

- Money account for anyone with a mobile phone
- Salary or government payments
- Person-to-person payment
- Store/merchant payment and bill payment
- Foreign remittance disbursement



Figure: SureCash

2.3.1.2 ProFino

ProFino Mobile Banking platform is a leading mobile banking and payments solution. It enables banks and financial organizations to offer comprehensive mobile financial services to their customers.

ProFino is developed using a combination of Progoti's patent-pending technology, and payment and telecommunication technologies from the Netherlands, Brazil and Uruguay. This can be readily integrated with the existing mobile networks and the banking infrastructure. ProFino can be accessed via different channels e.g. USSD, SMS, IVR and web services.

The platform opens up new business opportunities for banks, financial institutes and mobile operators, and provides a foundation for new cost-effective financial services and revenue opportunities. A bank can use ProFino to quickly launch customized mobile banking products, acquire new customers from branchless areas, increase low-cost deposit base, and increase revenue and profit. This may also be used by mobile operators to launch financial services and mobile commerce products.



Figure: Profino

Customer	Distributor	Agent	ORG/MFI	Bank
<ul style="list-style-type: none"> ⦿ Open Account ⦿ Cash Deposit ⦿ Cash Withdraw ⦿ Send Money ⦿ Bank Cash-In ⦿ Bank Cash-Out ⦿ Check Balance ⦿ Mini Statement ⦿ ATM Withdraw ⦿ Merchant Payment ⦿ Bill Payment ⦿ VAS Payment ⦿ P2G Payment ⦿ B2G Payment ⦿ Change PIN 	<ul style="list-style-type: none"> ⦿ Agent Registration ⦿ SR Registration ⦿ Agent Deposit ⦿ SR Deposit ⦿ Agent Withdraw ⦿ SR Withdraw ⦿ Agent Statement ⦿ SR Statement ⦿ Self-Statement ⦿ Agent Search ⦿ SR Search ⦿ Change PIN 	<ul style="list-style-type: none"> ⦿ Customer Registration ⦿ Bank Cash-In ⦿ Bank Cash Out ⦿ Send Money ⦿ Merchant Payment ⦿ Mini Statement ⦿ Agent Statement ⦿ Report Cash ⦿ Change PIN 	<ul style="list-style-type: none"> ⦿ ORG Branch Registration ⦿ OB Cash Collection ⦿ OB Cash Payment ⦿ OB Statement ⦿ OB Search ⦿ Self-Statement ⦿ Change PIN 	<ul style="list-style-type: none"> ⦿ Multi-level access control ⦿ Two steps maker-checker process ⦿ Compliance with central bank ⦿ Interest-bearing or interest-free accounts ⦿ Reconciliation and settlement reports ⦿ Flexible reports for internal and regulatory purpose

Figure: Features of Profino

2.3.1.3 ProRemit

ProRemit is automated software for foreign remittance transfers. It offers reduced risk and superior security as well as full customer satisfaction. ProRemit ensures disruption-free remittance from the USA in compliance with the Dodd Frank Act, Section 1073.

ProRemit features rich and secure web interface for all remittance participants, including exchange houses, administrators, bank branches and third-party disbursement affiliates. It offers instant exchange rate check and disbursement amount disclosure, in compliance with the Dodd Frank Act. It also offers real-time request confirmation, including the edit option and the maker-checker process. ProRemit includes automated remittance disbursement to the beneficiary's bank account or mobile account. It is fully compatible with the current exchange-house data format used for transactions. It offers automated notification alerts and messaging and easy, flexible as well as versatile report generation.

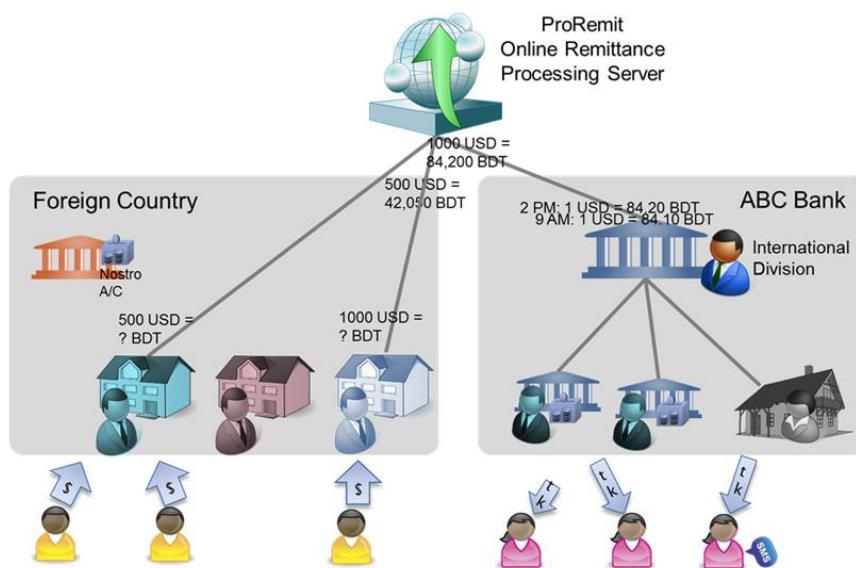


Figure: Proremit

2.3.1.4 School

School is automated software for school bill payment. It offers schools, colleges, and universities to offer comprehensive financial services to their students. It offers reduced risk and superior security as well as full customer satisfaction.

School is developed using a combination of Progoti's patent-pending technology, and payment and telecommunication technologies from the Netherlands, Brazil and Uruguay. This can be readily integrated with the existing mobile networks and the banking infrastructure. School can be accessed via different channels e.g. USSD, SMS and web services.

It includes automated web interfaces for creating new school and student payment account. Students can pay their bill/fees through SMS or USSD to their respective school accounts.

2.3.1.5 Android App

Android App is an automated mobile application for mobile banking and payment through SureCash. The apps contain features for account registration, deposit, withdraw and other mobile payment facilities. The app is user friendly and it will be placed at Google play as soon as possible.

2.3.2 Services

Progoti Systems Limited provides secure and reliable online and mobile banking services among the mass people. For this purpose they use their own solutions. Several major services provided by Progoti Systems Limited are described below.

2.3.2.1 Mobile Banking

We offer a comprehensive solution for mobile and/or branchless banking. This can be used by banks or telecom operators to provide low-cost banking services to unbanked people who could not be served by traditional bank branches.

In mobile or branchless banking, customers open account, deposit and withdraw money at retail agents in a way similar to mobile phone airtime top-up model. Here the service provider uses a software platform to maintain the bank accounts which are attached to customer

mobile phones, and customers can access the service using their phones for identification and authentication.

Often banks offer mobile banking features in phases. Initially a bank deploys simple products such as deposit, withdrawal and money transfer. After customers are used to these products, banks can offer more advanced products such as loans, savings, insurances etc.

ProFino offers complete software solution for mobile banking called ProFino Mobile Financial Solution. This solution combines both mobile banking platform to maintain the mobile accounts, and telecom platform to connect to mobile operators.

ProFino is available in software licensing as well as software-as-a-service (SAAS) business models. Progoti maintains a mobile banking and payment network called SureCash Network. A bank can license ProFino solution to build its own mobile banking service, or it can join SureCash network, and thereby offer mobile banking products to its customers.



Figure: Mobile Banking using SureCash

2.3.2.2 Mobile Payment

Our mobile payment solution delivers the electronic payment capabilities directly into the consumer's hand anywhere, anytime. We provide mobile payment solution to banks, financial institutions, businesses and shops that need payment products for features such as person-to-person payment, person-to-business payment, business-to-person payment (e.g. salary payment), person-to-government payment, government-to-person payment etc.

Progoti's payment product is quite flexible and can be customized according to the needs and requirements of the customers and their use-cases. For instance, a garment company can pay salaries and bonuses to their workers, or a microfinance company or NGO can disburse their loan and collect their loans.

ProFino's flagship product ProFino Mobile Financial Solution is the primary platform for mobile payment solution. This is very flexible and allows customization to fit many applications. It also supports integration and interoperability with third party business, billing and payment solutions.

ProFino is available in software licensing as well as software-as-a-service (SAAS) business models. Progoti maintains a mobile banking and payment network called SureCash Network. A business or organization (such as government departments or NGO) can join SureCash network to get the benefits of mobile payment.



Figure: Mobile Payments

2.3.2.2 Foreign Remittance

Progoti offers a complete solution for automated foreign remittance handling of any bank. Using this solution, a remittance request may be made from a foreign country using a secure web-interface, and subject to remittance executive's approval, a recipient may get the money using direct bank account deposit, over-the-counter withdrawal at a partner NGO office or direct mobile account deposit.

For banks, some benefits of the solution include reduced risk of operation, increased customer satisfaction, improved remittance-handling performance, and increased market share for foreign remittance. The foreign remittance process is compliant to central bank regulations, and is also compliant to the Dodd Frank Act (article 1073) in USA.

Our foreign remittance product is called ProRemit. This product can easily be integrated with a bank's core banking system and software systems of other remittance affiliates such as exchange houses, disbursement partners and ATM networks.



Figure: Foreign Remittance

2.3.2.3 School Payment

Progoti offers a complete solution for automated school bill/fees payment handling of any school, colleges and universities.

Progoti's school payment product is quite flexible and can be customized according to the needs and requirements of the customers and their use-cases. For instance, a garment company can pay salaries and bonuses to their workers, or a microfinance company or NGO can disburse their loan and collect their loans.

Progoti's flagship product ProFino Mobile Financial Solution is the primary platform for mobile payment solution. This is very flexible and allows customization to fit many applications. It also supports integration and interoperability with third party business, billing and payment solutions.

2.4 Customers and Partners

Progoti is a pioneer in introducing first open multi-bank mobile banking network in Bangladesh with 3 banks already as partners along with agents from 4 NGOs and connectivity with all mobile operators.

We have a comprehensive agreement with Teletalk, only public sector mobile operator in Bangladesh. This covers connectivity using SMS and USSD, as well as payment affiliation for mobile phone top-up, tuition fee payment and bill payment. We are also connected with all the mobile operators.

We also have agreements with four NGOs - Jagorani Chakra Foundation, Integrated Development Foundation, COAST and Resource Development Foundation (RDF)- that will work as retail agents for mobile banking. Together they have more than 400 branch offices around the country.

Progoti is currently expanding SureCash network to add more participating banks, retail agents, NGOs as well as payment affiliates such as utility companies, schools/universities, businesses and government departments. Progoti boosts itself of encompassing its own distribution channel network to ensure that SureCash is available all throughout the country.

2.5 Careers at Progoti

At Progoti, our people are our greatest assets, and our success is strongly tied with the quality, motivation and innovation of our people. We therefore created a culture that attracts the top talents and empower them to perform their best:

- A passionate team committed to build a success story
- Maintain a culture of confidence and positive energy (“can do” attitude)
- Stimulating work environment that challenges and motivates people to achieve their best and grow to their fullest potential
- Encourage innovation, collaboration, learning and knowledge-sharing
- Promote entertainment, sports and outdoor events and activities (we believe in a “work-hard and play-hard” culture)

Here are some of the benefits of working with Progoti:

- Opportunity to work on high-end technologies to develop quality software products for global customers
- Attractive salary, bonus and stock-option plan
- Lively work environment with no ties and no hierarchies
- Ample opportunity for learning and professional growth

2.6 Development Skills and Experience

Progoti Systems Limited is a young vibrant firm and solution provider having experienced, highly professional, skilled, and dedicated professional.

Progoti Systems Limited has a team of well skilled software engineers. They are responsible for secure, reliable and quality full work.

Progoti Systems Limited have already launched multibank supported mobile banking solution and provided mobile banking services.

2.7 Quality of Products

Progoti Systems Limited produced highly secure, reliable, flexible and user friendly product and services to its customers. It also concern with the outlook, layout of the web pages those are used by its clients.

Progoti's all the solutions such as SureCash, ProFino, ProRemit and Android App are user friendly and easy to customize and maintain. Progoti Systems Limited always concern about the security and reliability of its solution as it provide banking services.

All the members of Progoti Systems Limited are responsible for the quality of their respective work. Thus Progoti Systems Limited provides high quality solution and services.

Chapter 3

Workplace Details

Chapter Objectives:

1. Preamble
2. Environment of Progoti
3. Organizational Structure of Progoti
4. SWOT Analysis of Progoti
5. Professionals

6. Culture of Progoti
7. Internal Communication
8. Software Development Methodology
9. Tools & Technologies used by Progoti
10. Findings

3.1 Preamble

Friendly Environment, culture, nature of employees, company polices, food habit, transportation, ways of entertainment and tools & technologies are some of the vulnerable requirements of a company like software firm. There is no doubt that Progoti systems limited fulfill these requirements. Progoti Systems Limited provides a better workplace for its members though it may have some lacking. It provides flexible working days starting from Sunday and ending on Thursday with office hours starting from 9:00 AM and ending at 6:00 PM.

3.2 Office Schedule

Progoti Systems Limited provides suitable, flexible and comfortable office hours for its employees. The office week starts on Sunday and ends on Thursday and office hours start at 9:00 AM and continue till 6:00 PM with a lunch break of 1 hour.

3.3 Environment

The working environment of Progoti Systems Limited is more than awesome. The whole floor plan is 6,900 square feet covering with Air Conditioner. A meeting room for daily and

occasional meetings. The building has two attached washroom. Every person has own desk. Desk contains all the primary elements for sustaining a place hour after hour.

Progoti provides a paper free office for their employees. Every member of Progoti Systems limited has their own laptop and for office works the paper usage has been kept to a minimal level. This is certainly a great initiative considering the ecological factor. They are able to carry their laptop in their home and can able to work at home. The office provides awesome internet speed and there is no restriction to use internet. In every desk of engineers there also a 31 inches LCD monitor. Progoti provides highly configured development PC for each employee, enriched study materials, facility of high speed Internet and friendly communication and understanding between highly experienced and resourceful employees that help everybody to develop their skill and productivity.

Although Progoti Systems Limited provides many facilities for its employees, there is no fixed prayer room, recreation room and waiting room for refreshment.

The environment is good enough to continue quality full work for the firm. In a nutshell, the overall work environment of Progoti is really appreciable.

3.4 Organizational Structure

Progoti Systems is a well-structured organization. Its members are divided into four major groups such as stakeholders, top management team, engineering team and business management team. The hierarchical organizational structure is presented below.

High Level Organogram- Progoti

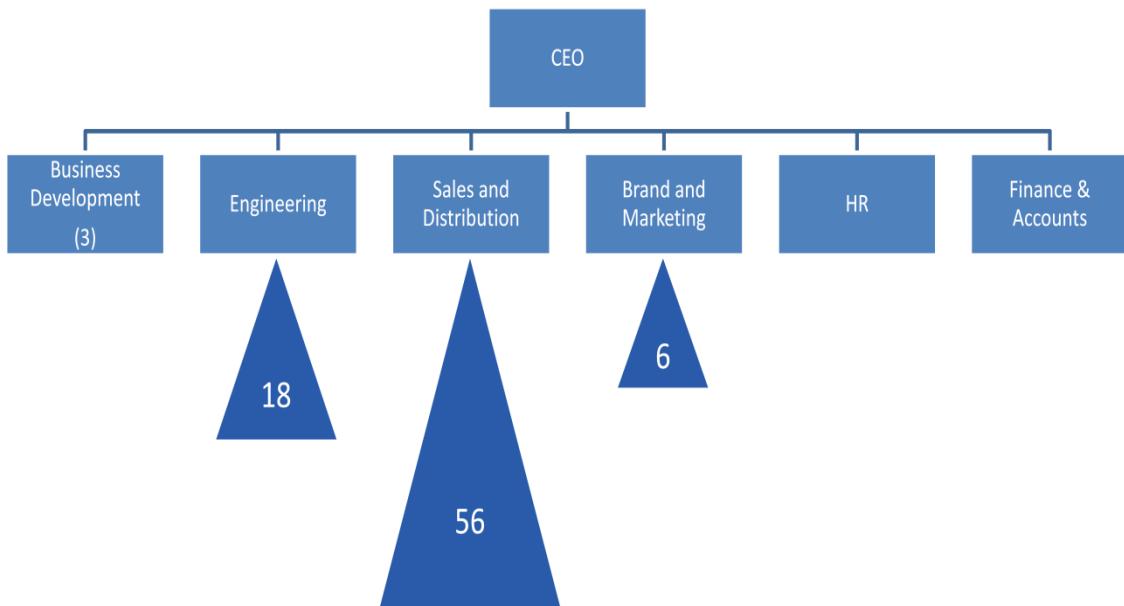


Figure: Organizational Structure of Progoti Systems Limited

3.5 Firm SWOT Analysis

A SWOT analysis is a structured planning method used to evaluate the strengths, weaknesses, opportunities, and threats involved in a project or in a business venture. A SWOT analysis can be carried out for a product, place, industry or person. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieve that objective. SWOT analysis of Progoti Systems Limited is presented below.

SureCash - SWOT Analysis

**S**

- Open service network for banks, payment partners and merchants
- Co-branded with banks
- Innovation /customization flexibility from own technology
- Any mobile phone, any time
- Easy to use and more secure

W

- Brand awareness among common people
- Speed of service adoption
- Dependence on bank partners' speed
- Coordination among SureCash partners

O

- Very large and growing market
- Government encouragement
- Product awareness from competitors

T

- Existing competitors & new entrants
- Pricing competition
- Cooperation from mobile operators
- Corporate adoption

3.6 Professionals

Employees are the most vital part of a company. They are able to lead the company all over the world and also able to destroy the existence of a company. Progoti Systems Limited has both role of solution developer and service provider. As a result it has broadly two teams of employees such as development team and business management team. Both of the teams work collaboratively with each other. The development team divided into Software developer

or engineer, Testing or QA engineer, System Analysts and Supporter. All of the members are responsible for their respective work.

3.7 Culture & Norms

Company culture represents a company. A good, friendly culture motivates a company's members to work for the best of company. Progoti System Limited has a good, enthusiastic, friendly culture mixed with hard and fun.

3.7.1 Non-refundable Facilities

Progoti Systems limited provides non-refundable facilities like snacks, lunch, tea & coffee and transportation for its employees.

3.7.1.1 Lunch & Snacks

Progoti Systems Limited provides snacks for its employees every day at 11:00 AM. Snacks contain fast food or fruits. Employees were provided free lunch from the office at in-house environment upto March, 2014, which was really healthy for the employees. From the month April, 2014 employees need to go to a restaurant for lunch every day which is 1 kilometers away from the office and they need to paid 50% of the costs.

3.7.1.2 Tea & Coffee

Progoti Systems Limited provides unlimited tea and coffee for its employees. Whenever want they need to order peons for tea or coffee and peons are responsible for the service.

3.7.1.3 Transportation

Progoti Systems Limited provides transportation for its employees. The car starts from Azimpur, Dhaka at 7:30 AM and ends at front of office. Another starts from Juraine from 7:30 AM and ends at front of office. This service is beneficial for company as well as employees health.

3.7.2 Recreational Facilities

Progoti Systems Limited arranges different programs for the refreshment and recreation of employees. Yearly picnic is one of them.

3.7.2.1 Yearly Excursion

Every year Progoti arranges excursion for its employees at different places. The programs continue for two or three days. Progoti bears total costs of the tour. This year Progoti arranged its yearly tour at MadobKundo, Shylet for two days.

3.7.2.2 Weekly Tea Party

Engineering team of Progoti Systems Limited have arranged tea party in every weak. It is one of the refreshment plans that Progoti Systems Limited organizes for its employees. Gossip and fun is the main attraction of the tea party.

3.7.3Miscellaneous

Some miscellaneous programs also arranged by Progoti Systems Limited for the satisfaction of employees. Some of those are presented below.

3.7.3.1 Sprint Completion Celebration

Engineering team of Progoti gives treat of the engineers after completion of every two sprint to appreciate them. In this time the engineers are taken at highly paid restaurant for the treat. 26th May, 2014 is one of such a day.

3.7.3.2Achievement Celebration

Progoti Systems Limited celebrates every achievement with its employees to appreciate the works of employees. It can be after a successful agreement or it may be an achievement of engineering team or it may be an achievement in mobile banking.

3.7.4 Company Polices

Every company has some own policy. Progoti Systems Limited also has some policy. One of the policies is salary cutting policy.

3.7.4.1 Salary Cutting policy

Progoti counts late in office if an employee enters into office after 9:30 AM and for every three days late salary of 1 day has been deducted. It also deduct salary for lunch provided among the employees.

3.8 Internal Communication

Every company has communication medium for making communication among the employees in the company. Progoti Systems Limited uses Skype and e-mail for internal communication among the employees.

3.8.1 Skype

Skype allows users to communicate with peers by voice using a microphone, video by using a webcam, and instant messaging over the Internet. As a result Progoti uses Skype for instant messaging among the employees. All the employees of Progoti are connected with each other with Skype over the Internet.

3.8.2 E-mail

E-mail is another communication media over the Internet. The e-mail communication can be formal or informal. Progoti Systems Limited uses e-mail for online formal communication. Formal working summary report of every weak is submitted over e-mail to department head. Any issue related to work or work place is submitted over e-mail. So, everyone needs to be up-to-date in official e-mail.

3.9 Software Development Methodology

Software engineering is the practice of using selected process techniques to improve the quality of a software development effort. This is based on the assumption, subject to endless debate and supported by patient experience, that a methodical approach to software development results in fewer defects and, therefore, ultimately provides shorter delivery times and better value. The documented collection of policies, processes and procedures used by a development team or organization to practice software engineering is called its software development methodology (SDM) or system development life cycle (SDLC).

There are several software development methodologies. Progoti Systems Limited follows agile methodology and Scrum methodology.

The various agile methodologies share much of the same philosophy, as well as many of the same characteristics and practices. But from an implementation standpoint, each has its own recipe of practices, terminology, and tactics. Here we have summarized a few of the main methodology contenders:

3.9.1 Agile Methodology

3.9.1.1 What Is Agile?

The Agile movement proposes alternatives to traditional project management. Agile approaches are typically used in software development to help businesses respond to unpredictability.

3.9.1.2 Why Agile?

Agile development provides opportunities to assess the direction throughout the development lifecycle. This is achieved through regular cadences of work, known as Sprints or iterations, at the end of which teams must present a potentially shippable product increment. By focusing on the repetition of abbreviated work cycles as well as the functional product they yield, agile methodology is described as “iterative” and “incremental.” In waterfall, development teams only have one chance to get each aspect of a project right. In an agile paradigm, every aspect of development — requirements, design, etc. — is continually revisited. When a team stops and re-evaluates the direction of a project every two weeks, there’s time to steer it in another direction.

This “inspect-and-adapt” approach to development greatly reduces development costs and time to market. Because teams can develop software at the same time they’re gathering requirements, “analysis paralysis” is less likely to impede a team from making progress. And because a team’s work cycle is limited to two weeks, stakeholders have recurring opportunities to calibrate releases for success in the real world. Agile development helps companies build the right product. Instead of committing to market a piece of software that hasn’t been written yet, agile empowers teams to continuously re-plan their release to optimize its value throughout development, allowing them to be as competitive as possible in the marketplace. Agile development preserves a product’s critical market relevance and ensures a team’s work doesn’t wind up on a shelf, never released.

3.9.1.3 Benefits of Agile Software Development

Agile methods grew out of the real-life project experiences of leading software professionals who had experienced the challenges and limitations of traditional waterfall development on project after project. The approach promoted by agile development is in direct response to the issue associated with traditional software development – both in terms of overall philosophy as well as specific processes.

Agile development, in its simplest form, offers a lightweight framework for helping teams, given a constantly evolving functional and technical landscape, maintain a focus on the rapid

delivery of business value (i.e., “bang for the buck”). As a result of this focus and its associated benefits, organizations are capable of significantly reducing the overall **risk** associated with software development.

In particular, agile development accelerates the delivery of initial business value, and through a process of continuous planning and feedback, is able to ensure that **value** is continuing to be maximized throughout the development process. As a result of this iterative planning and feedback loop, teams are able to continuously align the delivered software with desired business needs, easily **adapting** to changing requirements throughout the process. By measuring and evaluating status based on the undeniable truth of working, testing software, much more accurate **visibility** into the actual progress of projects is available. Finally, as a result of following an agile process, at the conclusion of a project is a software system that much better addresses the business and customer needs.

The diagram below displays the differences between agile and waterfall development processes. By delivering working, tested, deployable software on an incremental basis, agile development delivers increased value, visibility, and adaptability much earlier in the life cycle, significantly reducing project risk.

AGILE DEVELOPMENT VALUE PROPOSITION

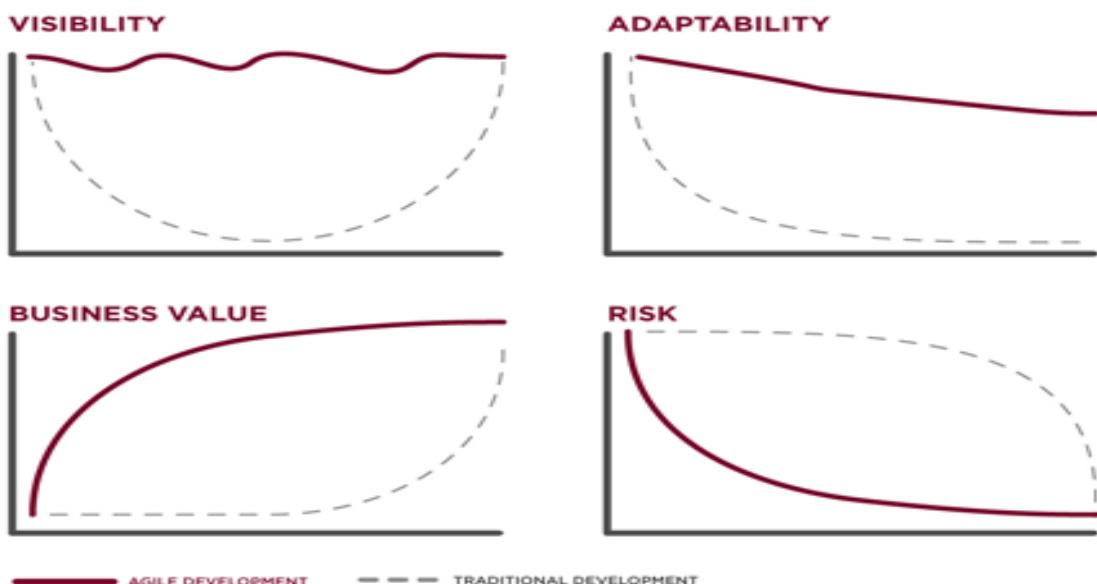


Figure: Agile vs. Traditional Development

3.9.1.4 Scrum

Scrum is a lightweight agile project management framework with broad applicability for managing and controlling iterative and incremental projects of all types. Ken Schwaber, Mike Beedle, Jeff Sutherland and others have contributed significantly to the evolution of Scrum over the last decade. Scrum has garnered increasing popularity in the software community due to its simplicity, proven productivity, and ability to act as a wrapper for various engineering practices promoted by other agile methodologies.

In Scrum, the "Product Owner" works closely with the team to identify and prioritize system functionality in form of a "Product Backlog". The Product Backlog consists of features, bug fixes, non-functional requirements, etc. - whatever needs to be done in order to successfully deliver a working software system. With priorities driven by the Product Owner, cross-functional teams estimate and sign-up to deliver "potentially shippable increments" of software during successive Sprints, typically lasting 15 days at Progoti Systems Limited. Once a Sprint's Product Backlog is committed, no additional functionality can be added to the Sprint except by the team. Once a Sprint has been delivered, the Product Backlog is analyzed and reprioritized, if necessary, and the next set of functionality is selected for the next Sprint.

Progoti Systems Limited practices Scrum methodology for their SDLC process. Overall task is divided into Sprints and a successful sprint continues for 15 days.

3.10 Tools and Technologies

Progoti Systems Limited uses different tools, technologies and framework for the development of software solutions. Tools, Technologies and Framework used by Progoti Systems Limited are given below.

3.10.1 Tools

Many tools are used by Progoti Systems Limited. Some of the tools those are used by me are listed below.

3.10.1.1 Jira

Jira is an automated project management tool. Using Jira Progoti Systems Limited able to manage projects properly. Projects are divided into sprint in Jira and different tasks are

assigned to different engineers efficiently using Jira. Status of issues can be changed through Jira portal. Bugs are also posted in Jira.

3.10.1.2 Bugzilla

Bugzilla is an automated testing tool. Before launching Jira Bugs were managed through Bugzilla. But now Jira replaces Bugzilla.

3.10.1.3 IntelliJ IDEA

IntelliJ IDEA is an IDE for project development and debugging. IntelliJ IDEA 12.1.4 version is used by Progoti. It is a user friendly and cost free IDE.

3.10.1.4 NetBeans

NetBeans is also an IDE for project development and debugging. NetBeans IDE 7.4 version is used by Progoti. It is also a user friendly and cost free IDE.

3.10.1.5 iReport

iReport is a tool for PDF, Excel and CSV report generation using Jasper Report. iReport-4.8.0 is used by Progoti Systems Limited.

3.10.1.6 SQLyog

SQLyog is a database management tool. SQLyog is used for database management in Progoti Systems Limited.

3.10.1.7 Sub-version (SVN)

Subversion is an open source version control system. Progoti use Subversion to maintain current and historical versions of files such as source code, web pages, and documentation. Its goal is to be a mostly compatible successor to the widely used Concurrent Versions System (CVS).

3.10.1.8 Apache Tomcat Server

Apache Tomcat is an open source software implementation of the Java Servlet and JavaServer Pages technologies. The Java Servlet and JavaServer Pages specifications are developed under the Java Community Process. Progoti uses Apache Tomcat 6.0.35.

3.10.2 Technologies

Progoti Systems mostly used Java based development in their software solution. The platforms, frameworks, technologies used by me in Progoti Systems Limited are listed below.

3.10.2.1 Java Spring

Spring is a Java framework. I have used spring MVC in my several projects at Progoti Systems Limited.

3.10.2.2 Groovy on Grails

Grails is also one kind of Java Technology based on groovy language. I used Grails 2.2.0 in my development work. Groovy is used for backend coding. It is a code first coding scheme.

3.10.2.3 SQL, HQL & Hibernate

In Progoti Systems Limited I used SQL, HQL and Hibernate query processing for retrieve and store data from/in database.

3.10.2.4 JavaScript, Jquery, CSS, HTML

JavaScript, Jquery, CSS, HTML are used for frontend field validation, design and pagination purpose. I also used those.

3.10.2.5 Ajax

Ajax is a technique for creating fast and dynamic web pages. AJAX allows web pages to be updated asynchronously by exchanging small amounts of data with the server behind the scenes. This means that it is possible to update parts of a web page, without reloading the whole page. At Progoti Systems Limited I used Ajax for submitting form in some project works.

3.10.2.6 Jasper Report

Jasper is an API for PDF, Excel and CSV report generation using Java. I used Jasper Report for PDF and Excel generation in my projects.

3.10.2.7 GSP & JSP

GSP and JSP are used for frontend development of Grails and Java Spring.

3.10.2.8 Web-services

The term *Web services* describes a standardized way of integrating Web-based applications using the XML, SOAP, WSDL and UDDI open standards over an

Internet protocol backbone. XML is used to tag the data, SOAP is used to transfer the data, WSDL is used for describing the services available and UDDI is used for listing what services are available. Used primarily as a means for businesses to communicate with each other and with clients, Web services allow organizations to communicate data without intimate knowledge of each other's IT systems behind the firewall.

3.10.2.8 Charisma

Charisma is a lightweight template and Progoti Systems Limited has used Charisma in most of their projects.

3.11 Findings

All the members of Progoti Systems Limited are very helpful and well mannered. The flexible work hour is one of the best things that I had experienced. This is especially important for the new comers in the company as a new comer may be late just because he/she is not habituated with the new office schedule.

Progoti Systems Limited never treated me like an intern rather than a member of their team. Employees working there are very friendly and cooperative as well. They themselves asked me about my problems and my need which was really encouraging.

In Progoti, I got acquainted with newer and demanding technologies which will help me in the long run. My programming skills are also highly improved. Problem solving aspects has also enriched extensively. Nonetheless, Progoti has brought me into light and paved my way to success in this world of technology and innovations.

Chapter 4

Internship Activities

Chapter Objectives:

1. Foreword
2. Daily Task & Activities
3. Testing & Quality Assurance
4. Research & Development Projects
5. Pair Programming
6. Bug Fixing & Support

4.1 Foreword

I have joined at Progoti Systems Limited to perform my internship as a software engineer and worked mainly in development team. Though I have worked at development team, I need to work for quality assurance and support for understanding the projects. Now close to at the end of my Internship at Progoti Systems Limited, I want to share my daily activities, development work, other activities and new experience in internship period at Progoti Systems Limited. All of my activities and experiences at Progoti Systems Limited are described below.

4.2 Daily Task & Activities

In Progoti Systems Limited, I have to perform some daily routine activities. Those activities help me to understand the meaning of professionalism. I think this experience of professionalism will be more important in my future professional life. The daily routine activities those are performed by me are described below.

4.2.1 Daily Scrum Meeting

A routine work of Progoti Systems Limited is its daily scrum meeting for engineers. The meeting Starts at 10:00 AM and end at 10:45 AM. Every members of engineering team are responsible to join this meeting in time. In scrum meeting the participants are asked the questions below.

- What did you do yesterday?
- What do you do today?
- Any problem difficulties faced?
- Any other issues in workplace?

4.2.2 Checking Mail & Reply

Another routine work of my internship period is checking my official mail for incoming issues and reply to the mail if the wanted to take my attention. This process helps me to adopt with professionalism.

4.2.3 Checking Jira

As mentioned earlier Jira is an automated project management tool. Every day I need to check my Jira account for upcoming events, issues and tasks assigned to me. This practice also helps me develop experience in professionalism.

4.3 Testing & Quality Assurance

Progoti Systems Limited has separate development and QA team. Though I have joined in development team as a software engineer, I need to work in software testing for several days. This process helps me to understand the products, in which I have assigned.

The days I had worked in software testing, I had found testing interesting. I always compared me with a teacher because a teacher identifies incorrectness in the answer sheet and here I had tried to identify bugs in the developer applications. The tester who can identify major bugs in application is a good tester according to CEO of Progoti Systems Limited. Some of my testing work is presented in Appendices Section.

4.4 Research & Development Projects

Progoti Systems Limited involve me some real life project those are already launched for services. I really feel proud to work at such projects and completing my assigned task. Progoti works at Java Spring and groovy on grailson which I had not any pre-experience, as a result I need to study on Java Spring, Groovy on Grails, Jasper report. The projects I have already completed are described below.

4.4.1 Jasper Report Generation

Jasper report is used for download and printable PDF, Excel report generation. I have developed several PDF and Excel reports using jasper. The report overview, concern, development procedure, timelines and difficulties faced are described below.

4.4.1.1 Overview

Jasper report is used for download and printable PDF, Excel report generation. Web-interface contains a button or icon button users are able to download PDF or excel file of the report.

4.4.1.2 Concern

Reports were shown in web-interface and users were not able to show the report without help of the Internet. As a result, they faces problem in times of need. So they were interested to get

a PDF or Excel of the report in web-interface. To fulfill this requirement Progoti Systems Limited decided to generate PDF or Excel report.

4.4.1.3 Tasks

- Give a report title and information aligning middle at the top of report
- Provide search criteria in the report
- Keep column header bold
- Export the data in a PDF or Excel Sheet

4.4.1.4 Timeline

The project was divided into two phases:

- Phase 1- Jasper Creation
- Phase 2- Exporting data into jasper

The timeline was generated phase wise:

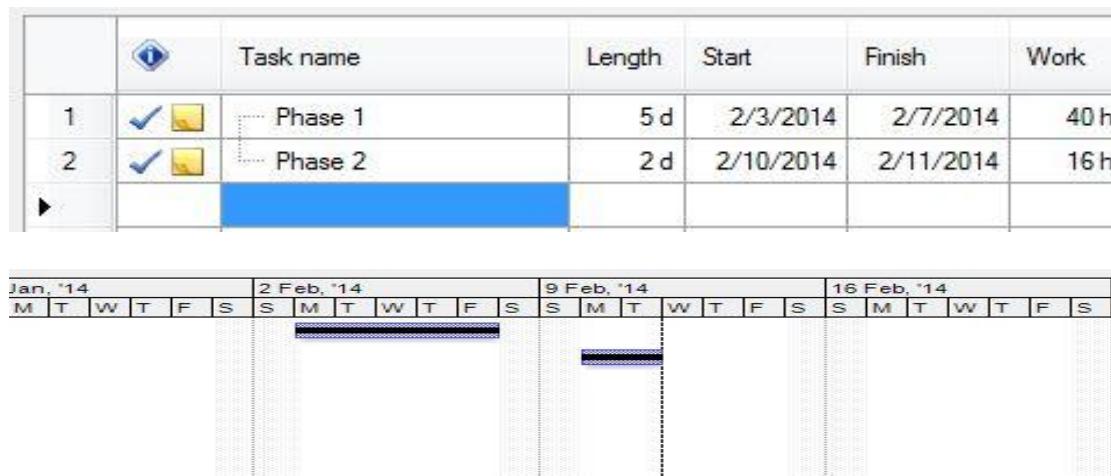


Figure: Timeline for Jasper Report Generation
Courtesy: Microsoft Project Professional 2010

4.4.1.5 Implementation

In my implementation process I have used the tools and technologies below.

- ✓ **Tools:** IntelliJ IDEA 12.1.4, iReport-4.8.0, SQLyog
- ✓ **Technologies:** Groovy on Grails, JavaScript, Ajax, Jasper
- ✓ **Database:** MySQL

4.4.1.6 Learning

I had learnt a lot of technical things from this project. Firstly, I was ought to work with groovy for the first time in my life. At the starting I was little bit of scared but after a little progression I found that the language isn't that scary after all.

Secondly, I had to work with IntelliJ IDEA 12.1.4 and this was the first time I had used IntelliJ IDEA. But this was an important learning for me as still some of the firms of Bangladesh are working with IntelliJ IDEA.

At last the most important one is Jasper using iReport. Jasper and iReport are two of new tools and technologies for me. I have never work with those before working in this project. This was one of the most valuable experiences for me to work further.

4.4.2 Interbank Transaction Report

Interbank transaction report is based on occurrence of transfers between banks. Here, one bank is the source bank and another bank is the destination bank. The report overview, concern, development procedure, timelines and difficulties faced are described below.

4.4.2.1 Overview

Interbank transaction report shows the transaction between two banks depending on some search filters.

4.4.2.2 Concern

To trace the daily or in a date range transaction between two banks interbank transaction report is necessary. Reports were shown in web-interface and users were not able to show the report without help of the Internet. As a result, they faces problem in times of need. So they were interested to get a PDF or Excel of the report in web-interface. To fulfill this requirement Progoti Systems Limited decided to generate interbank transaction report.

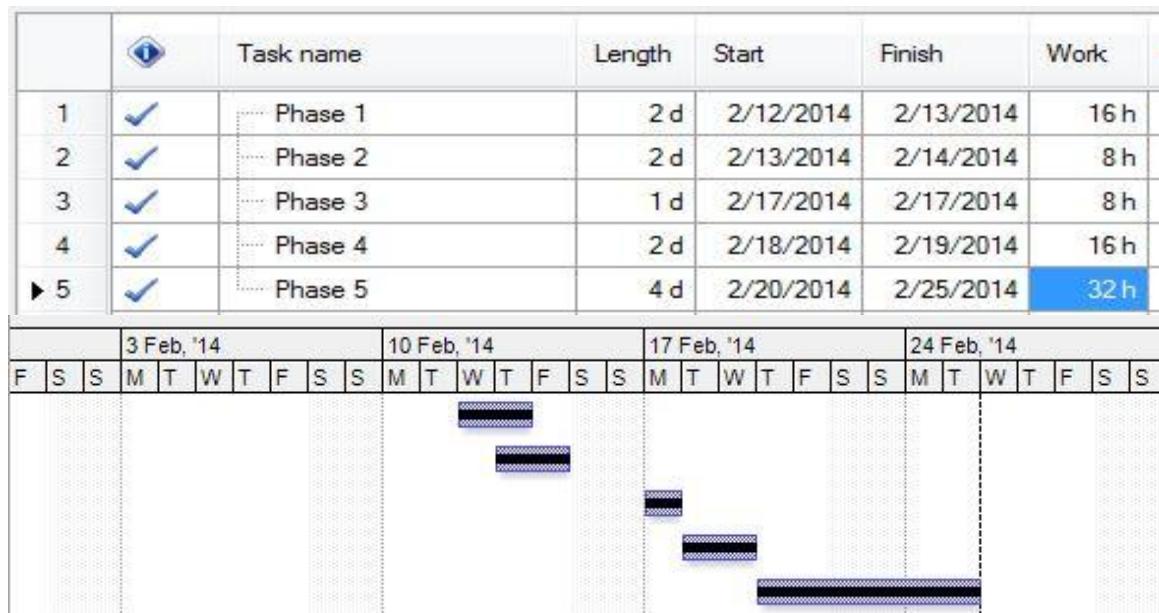
4.4.2.3 Tasks

- Create search criteria containing search filters.
- Set report data in a table.
- Create pagination for large data.
- Create PDF or Excel if results found.

4.4.2.4 Timeline

- Phase 1- Creating domain classes, controllers, services and views.
- Phase 2- Creating Search Filters
- Phase 3- Generating SQL query
- Phase 4- Getting data and putting those in views
- Phase 5- Creating Jasper for PDF and Excel

The timeline was generated phase wise:



4.4.2.5 Implementation

In my implementation process I have used the tools and technologies below.

- ✓ **Tools:** IntelliJ IDEA 12.1.4, iReport-4.8.0, SQLyog
- ✓ **Technologies:** Groovy on Grails, JavaScript, Ajax, Jasper, HQL
- ✓ **Database:** MySQL

4.4.2.6 Learning

I had learnt a lot of technical things from this project. Firstly, I was ought to work with groovy for the first time in my life. At the starting I was little bit of scared but after a little progression I found that the language isn't that scary after all.

Secondly, I had to work with IntelliJ IDEA 12.1.4 and this was the first time I had used IntelliJ IDEA. But this was an important learning for me as still some of the firms of Bangladesh are working with IntelliJ IDEA.

At last the most important one is Jasper using iReport. Jasper and iReport are two of new tools and technologies for me. I have never work with those before working in this project. This was one of the most valuable experiences for me to work further.

Here I have used HQL for query processing which is also new experience for me.

4.4.3 Multibank Settlement Report

Multibank settlement report is based on occurrence of transfers between banks. This report settles all the transaction between banks. Here, one bank is the issuer bank and another bank is the acquirer bank. The report overview, concern, development procedure, timelines and difficulties faced are described below.

4.4.3.1 Overview

Multibank settlement report shows the transaction between two banks depending on some search filters.

4.4.3.2 Concern

To trace the daily or in a date range transaction between two banks interbank transaction report is necessary. Reports were shown in web-interface and users were not able to show the report without help of the Internet. As a result, they faces problem in times of need. So they were interested to get a PDF or Excel of the report in web-interface. To fulfill this requirement Progoti Systems Limited decided to generate interbank transaction report.

4.4.3.3 Tasks

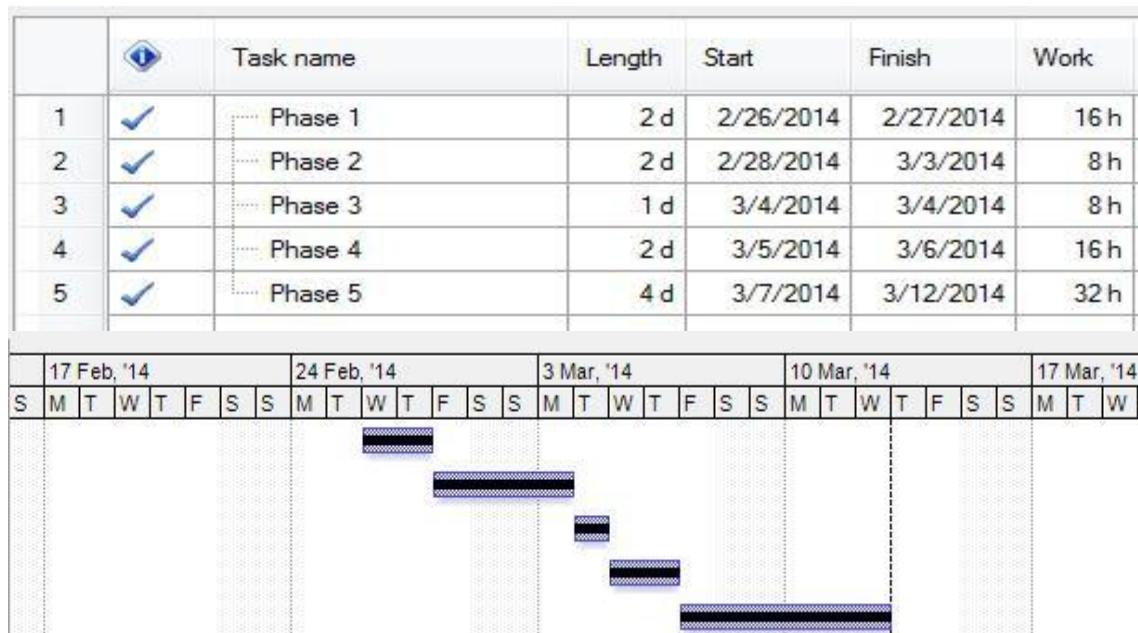
- Create search criteria containing search filters.
- Set report data in a table.
- Create pagination for large data.
- Create PDF or Excel if results found.

4.4.3.4 Timeline

- Phase 1- Creating domain classes, controllers, services and views.
- Phase 2- Creating Search Filters

- Phase 3- Generating SQL query
- Phase 4- Getting data and putting those in views
- Phase 5- Creating Jasper for PDF and Excel

The timeline was generated phase wise:



4.4.3.5 Implementation

In my implementation process I have used the tools and technologies below.

- ✓ **Tools:** IntelliJ IDEA 12.1.4, iReport-4.8.0, SQLyog
- ✓ **Technologies:** Groovy on Grails, JavaScript, Ajax, Jasper, HQL
- ✓ **Database:** MySQL

4.4.3.6 Learning

I had learnt a lot of technical things from this project. Firstly, I was ought to work with groovy for the first time in my life. At the starting I was little bit of scared but after a little progression I found that the language isn't that scary after all.

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At last the most important one is Jasper using iReport. Jasper and iReport are two of new tools and technologies for me. I have never work with those before working in this project. This was one of the most valuable experiences for me to work further.

Here I have used HQL for query processing which is also new experience for me.

4.4.4 Sure Cash Month wise Account Opening Report

SureCash month-wise account opening report presents total number of account registered of Distributor, Agent, Org-agent, Ob-agent, merchant and customer at every month. The report overview, concern, development procedure, timelines and difficulties faced are described below.

4.4.4.1 Overview

SureCash month-wise account opening report presents total number of account registered of Distributor, Agent, Org-agent, Ob-agent, merchant and customer at every month depending on some search filters.

4.4.4.2 Concern

To trace the monthly or in a date range account opening month-wise account opening report is necessary. Reports were shown in web-interface and users were not able to show the report without help of the Internet. As a result, they faces problem in times of need. So they were interested to get a PDF or Excel of the report in web-interface. To fulfill this requirement Progoti Systems Limited decided to generate interbank transaction report.

4.4.4.3 Tasks

- Create search criteria containing search filters.
- Set report data in a table.
- Create pagination for large data.
- Create cumulative report.

4.4.4.4 Timeline

- Phase 1- Creating domain classes using database reverse engineering, controllers, services and views.
- Phase 2- Creating Search Filters
- Phase 3- Generating SQL query
- Phase 4- Getting data and putting those in views

The timeline was generated phase wise:

		Task name	Length	Start	Finish	Work
1	<input checked="" type="checkbox"/>	Phase 1	3 d	3/25/2014	3/27/2014	18 h
2	<input checked="" type="checkbox"/>	Phase 2	1 d	3/27/2014	3/27/2014	6 h
3	<input checked="" type="checkbox"/>	Phase 3	2 d	3/28/2014	3/31/2014	16 h
► 4	<input checked="" type="checkbox"/>	Phase 4	3 d	4/1/2014	4/3/2014	24 h

	17 Mar, '14				24 Mar, '14				31 Mar, '14				7 Apr, '14												
T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	

4.4.4.5 Implementation

In my implementation process I have used the tools and technologies below.

- ✓ **Tools:** IntelliJ IDEA 12.1.4, iReport-4.8.0, SQLyog
 - ✓ **Technologies:** Groovy on Grails, JavaScript, Ajax, Jasper
 - ✓ **Database:** MySQL

4.4.4.6 Learning

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4.4.5 Sure Cash Month wise Transaction Report

SureCash month-wise transaction report presents total number of deposit, withdraw, bill/fees pay and send money (P2P) occurred at every month. It also presents total amount of deposit, withdraw, bill/fees pay and send money (P2P) occurred at every month. The report overview, concern, development procedure, timelines and difficulties faced are described below.

4.4.5.1 Overview

SureCash month-wise transaction report presents total number of deposit, withdraw, bill/fees pay and send money (P2P) occurred at every month. It also presents total amount of deposit, withdraw, bill/fees pay and send money (P2P) occurred at every month.

4.4.5.2 Concern

To trace the monthly transactions month-wise transaction report is necessary. Reports were shown in web-interface and users were not able to show the report without help of the Internet. As a result, they faces problem in times of need. So they were interested to get a PDF or Excel of the report in web-interface. To fulfill this requirement Progoti Systems Limited decided to generate interbank transaction report.

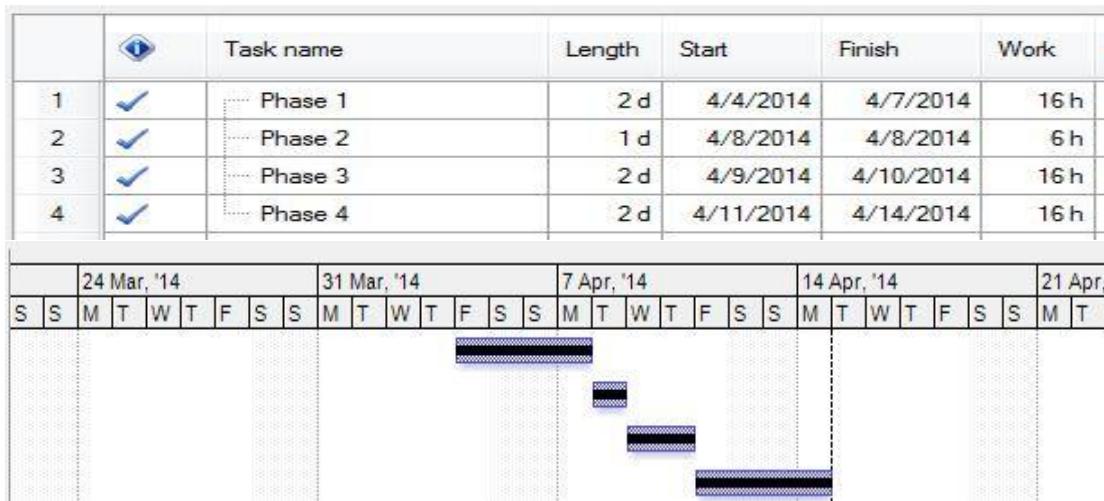
4.4.5.3 Tasks

- Create search criteria containing search filters.
- Set report data in a table.
- Create pagination for large data.

4.4.5.4 Timeline

- Phase 1- Creating domain classes using database reverse engineering, controllers, services and views.
- Phase 2- Creating Search Filters
- Phase 3- Generating SQL query
- Phase 4- Getting data and putting those in views

The timeline was generated phase wise:



4.4.5.5 Implementation

In my implementation process I have used the tools and technologies below.

- ✓ **Tools:** IntelliJ IDEA 12.1.4, iReport-4.8.0, SQLyog
- ✓ **Technologies:** Groovy on Grails, JavaScript, Ajax, Jasper
- ✓ **Database:** MySQL

4.4.5.6 Learning

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4.4.6 Sure Cash Month wise Revenue & Expense Report

SureCash month-wise revenue report presents total amount of revenue earned at every month and month-wise expense report presents total amount of expense at every month. The report overview, concern, development procedure, timelines and difficulties faced are described below.

4.4.6.1 Overview

SureCash month-wise revenue report presents total amount of revenue earned at every month and month-wise expense report presents total amount of expense at every month.

4.4.6.2 Concern

To trace the monthly revenue or expense month-wise revenue-expense report is necessary. Reports were shown in web-interface and users were not able to show the report without help of the Internet. As a result, they faces problem in times of need. To fulfill this requirement Progoti Systems Limited decided to generate interbank transaction report.

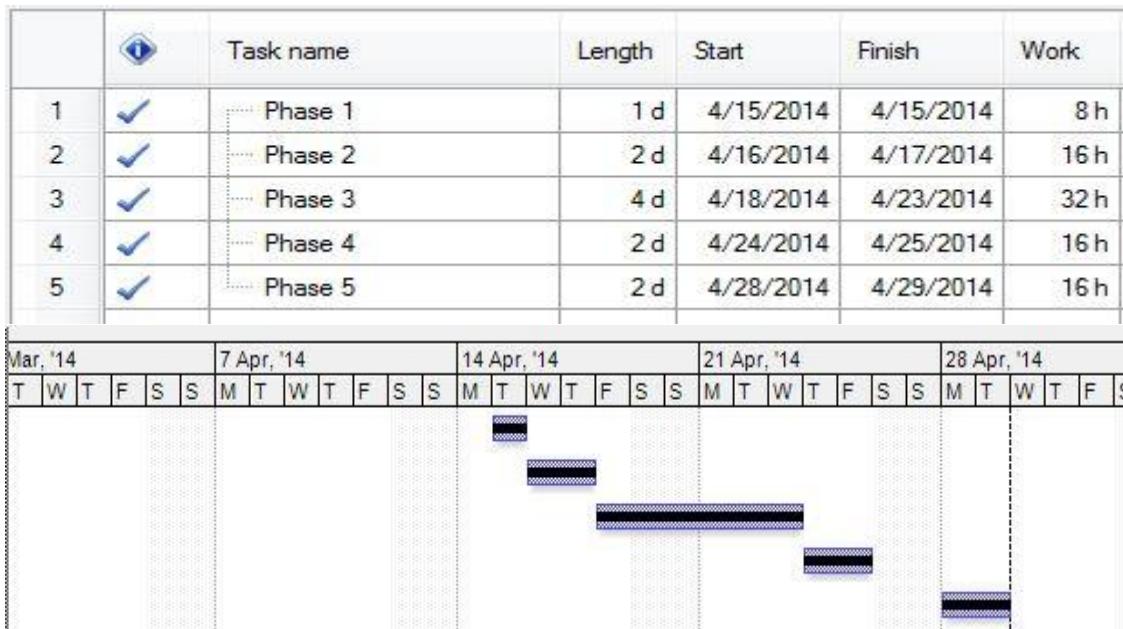
4.4.6.3 Tasks

- Create GUI for creating revenue & expense filters.
- Create search criteria containing search filters.
- Set report data in a table.
- Create pagination for large data.

4.4.6.4 Timeline

- Phase 1- Creating domain classes using database reverse engineering, controllers, services and views.
- Phase 2- Creating revenue & expense filters
- Phase 3- Creating Search Filters
- Phase 4- Generating SQL query
- Phase 5- Getting data and putting those in views

The timeline was generated phase wise:



4.4.6.5 Implementation

In my implementation process I have used the tools and technologies below.

- ✓ **Tools:** IntelliJ IDEA 12.1.4, iReport-4.8.0, SQLyog
- ✓ **Technologies:** Groovy on Grails, JavaScript, Ajax, Jasper
- ✓ **Database:** MySQL

4.4.6.6 Learning

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At last the most important one is Jasper using iReport. Jasper and iReport are two of new tools and technologies for me. I have never work with those before working in this project. This was one of the most valuable experiences for me to work further.

4.4.7 Sure Cash SR Limit Set & Check

4.4.7.1 Overview

SR limit is used for setting and checking limit of a SR under a distributor.

4.4.7.2 Concern

If a SR has no limit in his transaction, it can cause great harm for the company. Thinking this issue, SR limit is set for a SR.

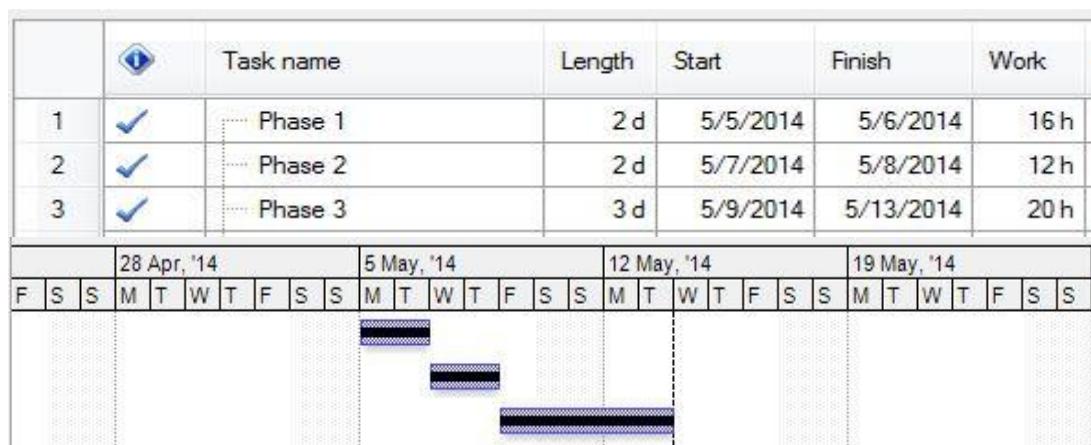
4.4.7.3 Tasks

- Create GUI for setting default and daily limit.
- Insert & update limit data into database.
- Check limit when Agent Top-up and Agent Cash-out.

4.4.7.4 Timeline

- Phase 1- Creating GUI for default and daily limit insert & update.
- Phase 2- Showing, editing & updating limit from SR account details.
- Phase 3- Checking limit using SureCash API when Agent Top-up and Cash-out.

The timeline was generated phase wise:



4.4.7.5 Implementation

In my implementation process I have used the tools and technologies below.

- ✓ **Tools:** IntelliJ IDEA 12.1.4, iReport-4.8.0, SQLyog
- ✓ **Technologies:** Groovy on Grails, JavaScript, Ajax, Jasper
- ✓ **Database:** MySQL

4.4.7.6 Learning

I had learnt a lot of technical things from this project. Firstly, I was ought to work with groovy for the first time in my life. At the starting I was little bit of scared but after a little progression I found that the language isn't that scary after all.

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At last the most important one is Jasper using iReport. Jasper and iReport are two of new tools and technologies for me. I have never work with those before working in this project. This was one of the most valuable experiences for me to work further.

4.4.8 Org-Agent Account Opening Summary

4.4.8.1 Overview

Org-agent account opening report summaries all the account opened by an org-agent and its ob-agents.

4.4.8.2 Concern

To trace the account opened by org-agent, org-agent account opening report is necessary. Reports were shown in web-interface and users were not able to show the report without help of the Internet. As a result, they faces problem in times of need. So they were interested to get a PDF or Excel of the report in web-interface. To fulfill this requirement Progoti Systems Limited decided to generate interbank transaction report.

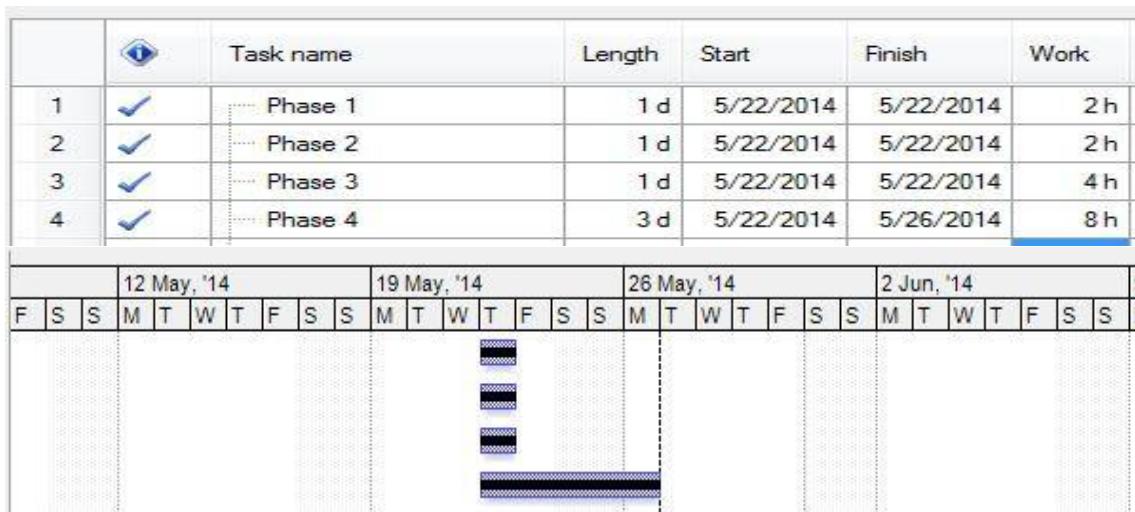
4.4.8.3 Tasks

- Create search criteria containing search filters.
- Set report data in a table.
- Create pagination for large data.

4.4.8.4 Timeline

- Phase 1- Creating controllers, services and views and actions.
- Phase 2- Creating Search Filters
- Phase 3- Generating SQL query
- Phase 4- Getting data and putting those in views

The timeline was generated phase wise:



4.4.8.5 Implementation

In my implementation process I have used the tools and technologies below.

- ✓ **Tools:** IntelliJ IDEA 12.1.4, iReport-4.8.0, SQLyog
- ✓ **Technologies:** Groovy on Grails, JavaScript, Ajax, Jasper
- ✓ **Database:** MySQL

4.4.8.6 Learning

I had learnt a lot of technical things from this project. Firstly, I was ought to work with groovy for the first time in my life. At the starting I was little bit of scared but after a little progression I found that the language isn't that scary after all.

Secondly, I had to work with IntelliJ IDEA 12.1.4 and this was the first time I had used IntelliJ IDEA. But this was an important learning for me as still some of the firms of Bangladesh are working with IntelliJ IDEA.

At last the most important one is Jasper using iReport. Jasper and iReport are two of new tools and technologies for me. I have never work with those before working in this project. This was one of the most valuable experiences for me to work further.

4.4.9 Org-Agent Account Opening Details

4.4.9.1 Overview

Org-agent account opening report details all the account opened by an org-agent.

4.4.9.2 Concern

To trace the account opened by org-agent, org-agent account opening report is necessary. Reports were shown in web-interface and users were not able to show the report without help of the Internet. As a result, they faces problem in times of need. So they were interested to get a PDF or Excel of the report in web-interface. To fulfill this requirement Progoti Systems Limited decided to generate interbank transaction report.

4.4.9.3 Tasks

- Create search criteria containing search filters.
- Set report data in a table.
- Create pagination for large data.
- Create PDF or Excel if results found.

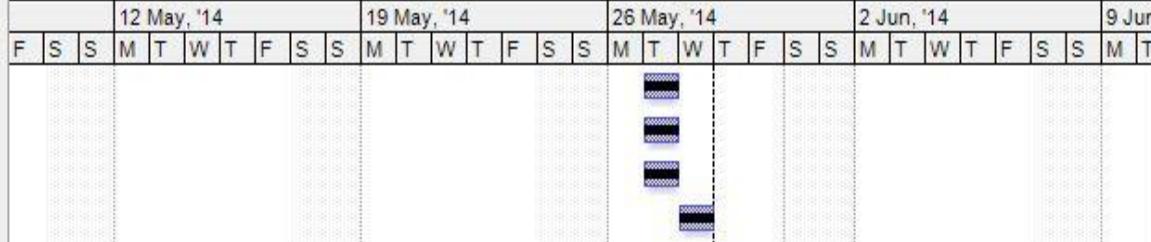
4.4.9.4 Timeline

- Phase 1- Creating domain classes, controllers, services and views.
- Phase 2- Creating Search Filters
- Phase 3- Generating SQL query
- Phase 4- Getting data and putting those in views
- Phase 5- Creating Jasper for PDF and Excel

The timeline was generated phase wise:

		Task name	Length	Start	Finish	Work
1		Phase 1	1 d	5/27/2014	5/27/2014	2 h
2		Phase 2	1 d	5/27/2014	5/27/2014	2 h
3		Phase 3	1 d	5/27/2014	5/27/2014	4 h
4		Phase 4	1 d	5/28/2014	5/28/2014	8 h

	12 May, '14				19 May, '14				26 May, '14				2 Jun, '14				9 Jun		
	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T



4.4.9.5 Implementation

In my implementation process I have used the tools and technologies below.

- ✓ **Tools:** IntelliJ IDEA 12.1.4, iReport-4.8.0, SQLyog
- ✓ **Technologies:** Groovy on Grails, JavaScript, Ajax, Jasper
- ✓ **Database:** MySQL

4.4.9.6 Learning

I had learnt a lot of technical things from this project. Firstly, I was ought to work with groovy for the first time in my life. At the starting I was little bit of scared but after a little progression I found that the language isn't that scary after all.

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At last the most important one is Jasper using iReport. Jasper and iReport are two of new tools and technologies for me. I have never work with those before working in this project. This was one of the most valuable experiences for me to work further.

4.4.10 Scheduled Settlement and Interbank Transaction Report

4.4.10.1 Overview

Scheduled settlement and interbank transaction report using jasper report is used for download and printable PDF, Excel report generation. Web-interface contains a button or icon button users are able to download PDF or excel file of the report.

4.4.10.2 Concern

Sometimes it is necessary to generate report automatically without interaction of anybody which helps to generate report in a specific time although human can forget to generate report some times. So they were interested to get a PDF or Excel of the report in web-interface. To fulfill this requirement Progoti Systems Limited decided to generate interbank transaction report.

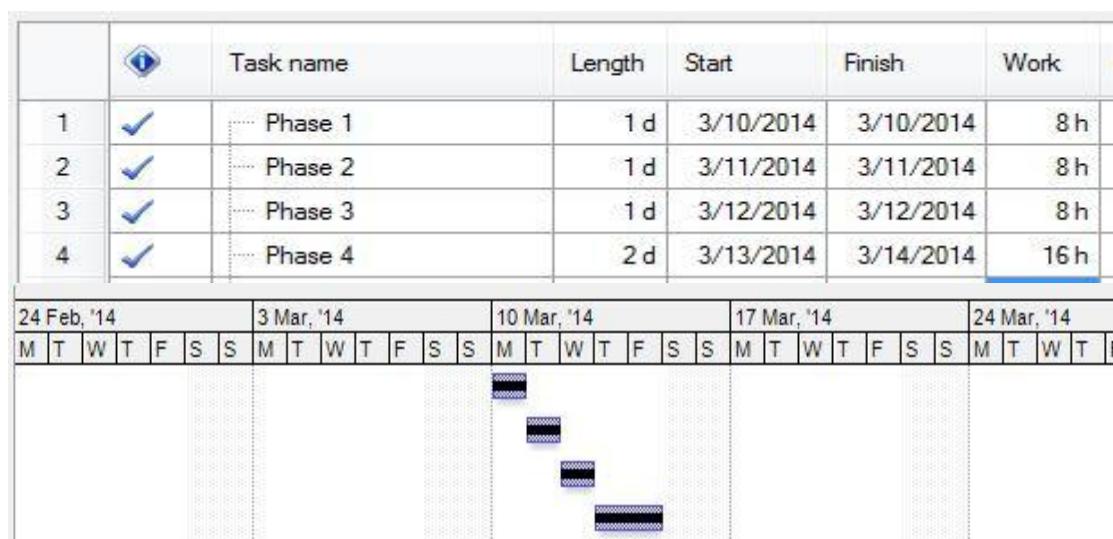
4.4.10.3 Tasks

- Create a scheduler
- Create PDF or Excel if results found.

4.4.10.4 Timeline

- Phase 1- Creating controllers and services.
- Phase 2- Creating Crone Expression and scheduler.
- Phase 3- Generating SQL query
- Phase 4- Creating Jasper for PDF and Excel

The timeline was generated phase wise:



4.4.10.5 Implementation

In my implementation process I have used the tools and technologies below.

- ✓ **Tools:** IntelliJ IDEA 12.1.4, iReport-4.8.0, SQLyog
- ✓ **Technologies:** Groovy on Grails, JavaScript, Ajax, Jasper
- ✓ **Database:** MySQL

4.4.10.6 Learning

I had learnt a lot of technical things from this project. Firstly, I was ought to work with groovy for the first time in my life. At the starting I was little bit of scared but after a little progression I found that the language isn't that scary after all.

Secondly, I had to work with IntelliJ IDEA 12.1.4 and this was the first time I had used IntelliJ IDEA. But this was an important learning for me as still some of the firms of Bangladesh are working with IntelliJ IDEA.

At last the most important one is Jasper using iReport. Jasper and iReport are two of new tools and technologies for me. I have never work with those before working in this project. This was one of the most valuable experiences for me to work further.

4.5 Pair Programming

Pair programming consists of two programmers sharing a single workstation (one screen, keyboard and mouse among the pair). The programmer at the keyboard is usually called the "driver", the other, also actively involved in the programming task but focusing more on overall direction is the "navigator"; it is expected that the programmers swap roles every few minutes or so.

4.5.1 Expected Benefits

- increased code quality: "programming out loud" leads to clearer articulation of the complexities and hidden details in coding tasks, reducing the risk of error or going down blind alleys
- better diffusion of knowledge among the team, in particular when a developer unfamiliar with a component is pairing with one who knows it much better
- better transfer of skills, as junior developers pick up micro-techniques or broader skills from more experienced team members

- large reduction in coordination efforts, since there are $N/2$ pairs to coordinate instead of N individual developers
- improved resiliency of a pair to interruptions, compared to an individual developer: when one member of the pair must attend to an external prompt, the other can remain focused on the task and can assist in regaining focus afterwards

4.5.2 Potential Costs

While empirical studies have yet to yield definite results on either benefits or costs, a commonly cited best-case estimate of 15% overhead is claimed for systematic pairing, relative to individual work; this overhead, it is claimed (again with some empirical support, though not entirely conclusive), is compensated by gains in code quality which usually entails significant maintenance penalties down the road.

Pair programming is very effective in agile software development process. It helps to complete task momentously. I was working with some of my colleague at some of my task parallel. This helps me to complete tasks effectively and improve my coding skills.

4.6 Bug Fixing & Support

A **software bug** is an error, flaw, failure, or fault in a computer program or system that causes it to produce an incorrect or unexpected result, or to behave in unintended ways. Most bugs arise from mistakes and errors made by people in either a program's source code or its design, or in frameworks and operating systems used by such programs, and a few are caused by compilers producing incorrect code.

Programs may not be 100% accurate. Sometimes it fails to meet customer needs. Those problems are called bugs. A developer is responsible for fixing bug in his/her program.

But I had to fix bug in existing programs of the developer who switch their jobs in other firms. Beginning of bug fixing task, I faced difficulties but I took this task as a challenge and I was able to complete this task efficiently within dateline. Some of my bugs fixing reports are presented in appendices section.

Sometimes I need to give support to the product those I had developed. It was a great opportunity for me to work with business people. They have not enough knowledge on technology and they face in many problems with the technology.

Sometimes I took it as interesting to be understood them a simple problem that they faced and too much worried about the problem.

Chapter 5

Professional Growth

Chapter Objectives:

1. Ability of Taking Challenges
2. Technical Skills Acquired
3. Communication Skills Acquired
4. Business & Management Skills Acquired
5. Achievement for Future Application

5.1 Ability of Taking Challenges

Internships are never that smooth as expected. In fact it will always test somebody by putting up new tasks, unexpected scenarios and obviously lots of challenges. My internship was not a different case either. Throughout my internship period I have to overcome a quite number of challenges. Some of them really push me to my limits but after completing those I found myself in a better position than I was before overcoming that challenge. This section is intended to reflect the challenges that I have faced during my stay at Progoti Systems Limited.

5.1.1 Facing the Office Environment

Going into a new place is always challenging as one has to adapt with the new environment. Progoti Systems Limited being one of the pioneers of introducing flat hierarchy in our country has a nice and warm environment. Still I have to adapt with some of the things like open and paper free office.

5.1.2 Completing the R&D properly

Doing R&D works are fun but at the end of the day one will always want to do something that has an immediate impact. For example, developing some web applications those people will use and give regular feedbacks. But for getting a chance of working in a web development projects one need to put up a good show in the R&D ones. So completing my R&D works properly was another challenge that I have to overcome in order to get a chance of developing some web applications.

5.1.3 Handling the Boredom

There may be a time when one cannot even breathe due to the pressure of his/her work but the surprising fact is that s/he may even fall into an exactly opposite scenario. That is someone may get bored simply because s/he has nothing to do and I had faced that scenario too.

Now if I had chosen to enjoy my leisure I would have been made a great mistake. Instead I insisted my supervisor to provide me with some new tasks and finally he provided. Handling that situation was really good lesson to me.

5.1.4 Meeting the Timeline

During our academic projects we have to follow a specific timeline for completing the project. During the projects of my internship there were timelines too but this time the

intensity of meeting the timeline is much higher. It exerts a great amount of pressure when the deadlines start nearing. Moreover one also knows that a request for deadline extension may not leave a good impression. So finishing the projects by maintaining their timelines was a real challenge of my internship program.

5.2 Technical Skills Acquired

This internship has provided me a wonderful opportunity to acquire various technological skills. Though it may take some more time to master those skills, at this moment I am confident to apply them in any of my projects. Some of the significant technical aspects that I have handled during the internship are listed below.

5.2.1 Tools

Many tools are used by Progoti Systems Limited. Some of the tools those are used by me are listed below.

5.2.1.1 Jira

Jira is an automated project management tool. Using Jira Progoti Systems Limited able to manage projects properly. Projects are divided into sprint in Jira and different tasks are assigned to different engineers efficiently using Jira. Status of issues can be changed through Jira portal. Bugs are also posted in Jira.

5.2.1.2 Bugzilla

Bugzilla is an automated testing tool. Before launching Jira Bugs were managed through Bugzilla. But now Jira replaces Bugzilla.

5.2.1.3 IntelliJ IDEA

IntelliJ IDEA is an IDE for project development and debugging. IntelliJ IDEA 12.1.4 version is used by Progoti. It is a user friendly and cost free IDE.

5.2.1.4 NetBeans

NetBeans is also an IDE for project development and debugging. NetBeans IDE 7.4 version is used by Progoti. It is also a user friendly and cost free IDE.

5.2.1.5 iReport

iReport is a tool for PDF, Excel and CSV report generation using Jasper Report. iReport-4.8.0 is used by Progoti Systems Limited.

5.2.1.6 SQLyog

SQLyog is a database management tool. SQLyog is used for database management in Progoti Systems Limited.

5.2.1.7 Sub-version (SVN)

Subversion is an open source version control system. Progoti use Subversion to maintain current and historical versions of files such as source code, web pages, and documentation. Its goal is to be a mostly compatible successor to the widely used Concurrent Versions System (CVS).

5.2.1.8 Apache Tomcat Server

Apache Tomcat is an open source software implementation of the Java Servlet and JavaServer Pages technologies. The Java Servlet and JavaServer Pages specifications are developed under the Java Community Process. Progoti uses Apache Tomcat 6.0.35.

5.2.2 Technologies

Progoti Systems mostly used Java based development in their software solution. The platforms, frameworks, technologies used by me in Progoti Systems Limited are listed below.

5.2.2.1 Java Spring

Spring is a Java framework. I have used spring MVC in my several projects at Progoti Systems Limited.

5.2.2.2 Groovy on Grails

Grails is also one kind of Java Technology based on groovy language. I used Grails 2.2.0 in my development work. Groovy is used for backend coding. It is a code first coding scheme.

5.2.2.3 SQL, HQL & Hibernate

In Progoti Systems Limited I used SQL, HQL and Hibernate query processing for retrieve and store data from/in database.

5.2.2.4 JavaScript, Jquery, CSS, HTML

JavaScript, Jquery, CSS, HTML are used for frontend field validation, design and pagination purpose. I also used those.

5.2.2.5 Ajax

Ajax is a technique for creating fast and dynamic web pages. AJAX allows web pages to be updated asynchronously by exchanging small amounts of data with the server behind the scenes. This means that it is possible to update parts of a web page, without reloading the whole page. At Progoti Systems Limited I used Ajax for submitting form in some project works.

5.2.2.6 Jasper Report

Jasper is an API for PDF, Excel and CSV report generation using Java. I used Jasper Report for PDF and Excel generation in my projects.

5.2.2.7 GSP & JSP

GSP and JSP are used for frontend development of Grails and Java Spring.

5.2.2.8 Web-services

The term *Web services* describes a standardized way of integrating Web-based applications using the XML, SOAP, WSDL and UDDI open standards over an Internet protocol backbone. XML is used to tag the data, SOAP is used to transfer the data, WSDL is used for describing the services available and UDDI is used for listing what services are available. Used primarily as a means for businesses to communicate with each other and with clients, Web services allow organizations to communicate data without intimate knowledge of each other's IT systems behind the firewall.

5.2.2.8 Charisma

Charisma is a lightweight template and Progoti Systems Limited has used Charisma in most of their projects.

5.3 Communication Skills Acquired

If someone is a good communicator s/he will have a better chance to succeed. For the students, internships provide the best chance of improving their communication skills. I had my chance and I had tried my level best to enhance my communication skills. The skills that I think I have really improved are discussed here.

5.3.1 Presentation

My first R&D project was to propose different frameworks for some specific set of languages. As I have to propose something I guess a good presentation was the best option for me. So in order to deliver a nice presentation I had to practice more and more which eventually increased my presentation skill to a great extent.

5.3.2 Information Gathering

Information gathering is a vital communication skill especially for a person who wants to be a software engineer. The quality of our requirement engineering will heavily depend on how much information we can gather from a normal communication. As developing the web applications, I had to improve my information gathering skills because if I had failed to understand the requirement properly, it would take much longer to complete the project.

5.3.3 Negotiation

Clients will demand something more. The question is whether it can be provided within the specific timeline. So there will be some features that one cannot provide or may need a time extension. Whatever the case, for that someone must increase his/her negotiation skills. In one of my projects I faced this scenario and I had negotiated as well. At that moment, maybe I was not that good in negotiating but the confidence that I have gathered certainly boosted up my negotiation skills.

5.3.4 Listening

Listening may sound boring but there is no alternative of becoming a good listener to understand the future product. The meetings that I have undertaken during the internship were very much helpful in increasing my patience of listening to others.

5.4 Business & Management Skills Acquired

One may argue that internships are not the best way of gaining management skills. That may be partially true because someone would be very lucky if s/he gets the chance of managing something during the internship. But there is always a scope of managing own self to increase one's management capabilities. I followed the later methodology to gain some of the management skills mentioned below.

5.4.1 Planning

Before starting a task I had always planned that how should I approach towards it. Though those plans only included me, at least I can say that I am habituated with planning.

5.4.2 Organizing

One of the best ways of learning how to organize is to start organizing oneself of his/her own and after spending almost six months at Progoti I should say that I am a much more organized person only by practicing that principle. And now being organized myself, I can say that I am ready to organize others.

5.4.3 Time Management

Time management is another important issue in professional life. One may be doing multiple jobs at once and some other people may also ask for his/her help. Working there I had this experience, of getting some smaller tasks from others when I was busy with my own project. But I could not say no to them, instead I had to manage my times for them. That was another important lesson for me.

5.5 Achievement for Future Application

Working environment is completely different from the environment faced in academia. After completing the internship I think that I had realized an important thing. Man will always change their nature. But it's me who has to adapt with them.

Another important lesson was – I should never wait for the last moment. That is a real bad habit. And in the end it really turns up into a chaotic situation. So my realization was- the timeline is for managing my time appropriately not turning everything into a chaos.

Chapter 6

Conclusions & Recommendations

Chapter Objectives:

1. Concluding Statements of my Internship
2. Recommendation for the Internship Company
3. Recommendation for the Institute

6.1 Conclusions

In conclusion, the internship was a useful experience. I have found out what my strengths and weaknesses are; I gained new knowledge and skills and met many new people. I achieved many of my learning goals, however for some the conditions did not permit to achieve them as I wanted.

The past months of my internship have been very instructive for me. Before my internship started my ideas did not match the experiences gained during my internship. There is a big difference in the school projects and the tasks and activities during the actual work. In school we learn how to describe the work in projects, where in work you learn how to implement them in reality. This internship was definitely an introduction to the actual work field for me. I have learned to work in a business organization and apply my knowledge into practice.

In concluding my work at Progoti Systems Limited I view it as the most insightful, relevant, and meaningful opportunity of my career thus far.

6.2 Recommendations

6.2.1 Recommendation for the Internship Company

Progoti Systems Limited is a great learning company for interns. Progoti Systems Limited is a small company and helps interns improve and develops their skills. I would recommend Progoti Systems Limited to keep hiring interns with different educational background, to help build and improve the company with the knowledge they gained from their studies.

6.2.2 Recommendation for the Institute

Institute of Information Technology is the leading educational institute for software engineering. Their work focused paid internship based teaching approach is highly appreciated by most of the technical guys.

Progoti Systems Limited is interested to take more interns in next year and the interns need to work at real life and highly secured banking project. I would recommend my institute to send interns at Progoti Systems Limited who have better programming skills as they need to work at real life live project.

Chapter 7

References

References

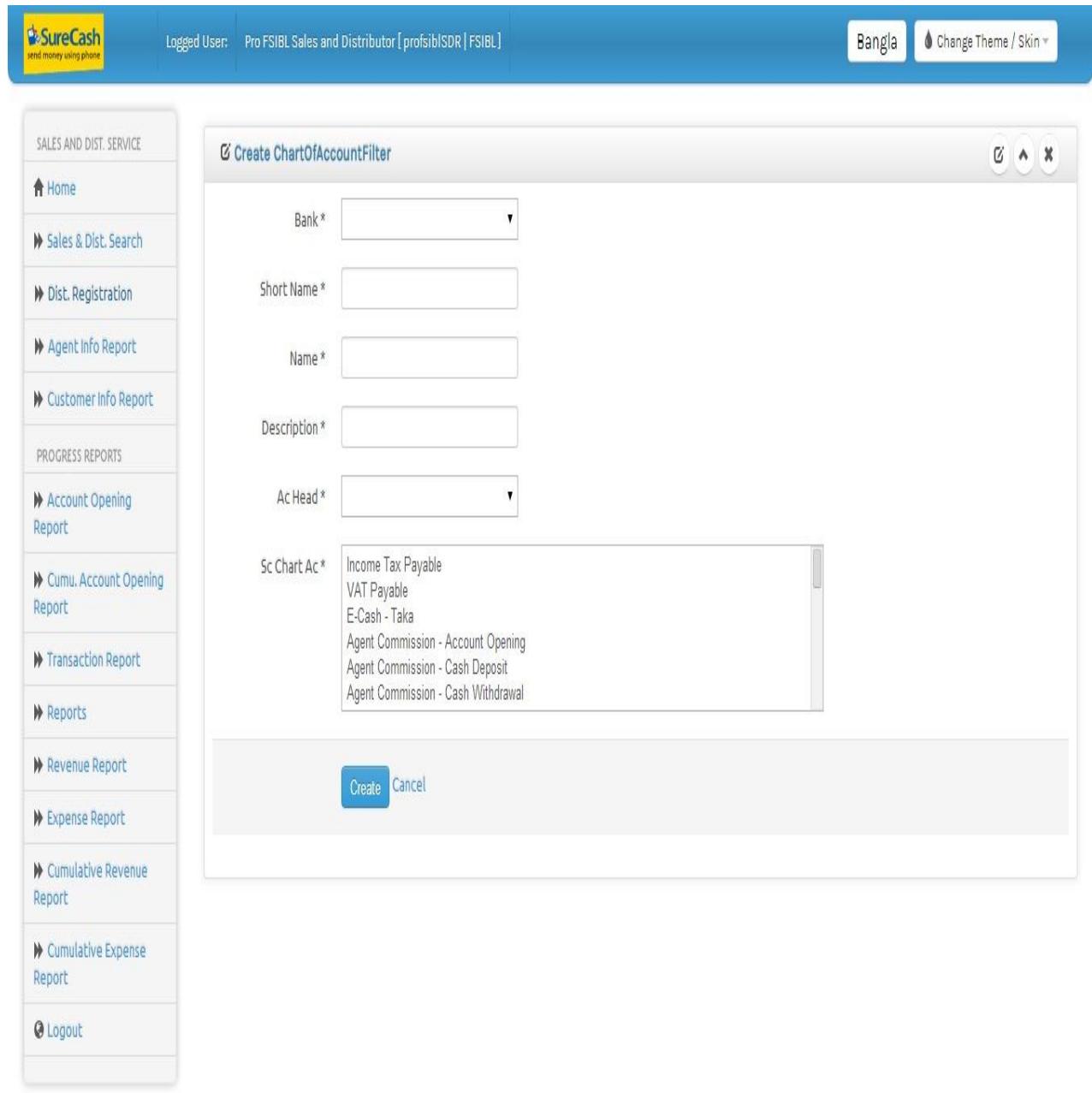
- [1] <http://www.progoti.com/company-profile.html>
- [2] <http://www.progoti.com/our-team.html>
- [3] <http://www.progoti.com/career.html>
- [4] <http://www.progoti.com/customer.html>
- [5] <http://www.progoti.com/products.html>
- [6] <http://www.progoti.com/solutions.html>
- [7] <http://www.versionone.com/Agile101/Agile-Software-Development-Benefits/>
- [8] <http://www.itinfo.am/eng/software-development-methodologies/>
- [9] <http://guide.agilealliance.org/guide/pairing.html>
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- [16] http://www.tutorialspoint.com/jasper_reports/
- [17] <http://projects.spring.io/spring-framework/>
- [18] <https://grails.org/>
- [19] <http://subversion.apache.org/>
- [20] <http://www.kent.ac.uk/careers/sk/top-ten-skills.htm>

Chapter 8

Appendices

Appendix A: Screenshot of Reports

Chart of Account Filter for Revenue Expense Report



The screenshot shows the SureCash software interface. On the left is a vertical navigation menu with the following items:

- SALES AND DIST. SERVICE
- Home
- Sales & Dist. Search
- Dist. Registration
- Agent Info Report
- Customer Info Report
- PROGRESS REPORTS
- Account Opening Report
- Cumu. Account Opening Report
- Transaction Report
- Reports
- Revenue Report
- Expense Report
- Cumulative Revenue Report
- Cumulative Expense Report
- Logout

The main area displays a dialog box titled "Create ChartOfAccountFilter". It contains the following fields:

- Bank *: A dropdown menu.
- Short Name *: An input field.
- Name *: An input field.
- Description *: An input field.
- Ac Head *: A dropdown menu.
- Sc Chart Ac *: A dropdown menu listing account names, including:
 - Income Tax Payable
 - VAT Payable
 - E-Cash - Taka
 - Agent Commission - Account Opening
 - Agent Commission - Cash Deposit
 - Agent Commission - Cash Withdrawal

At the bottom of the dialog box are two buttons: "Create" and "Cancel".

Chart of Account Filter List

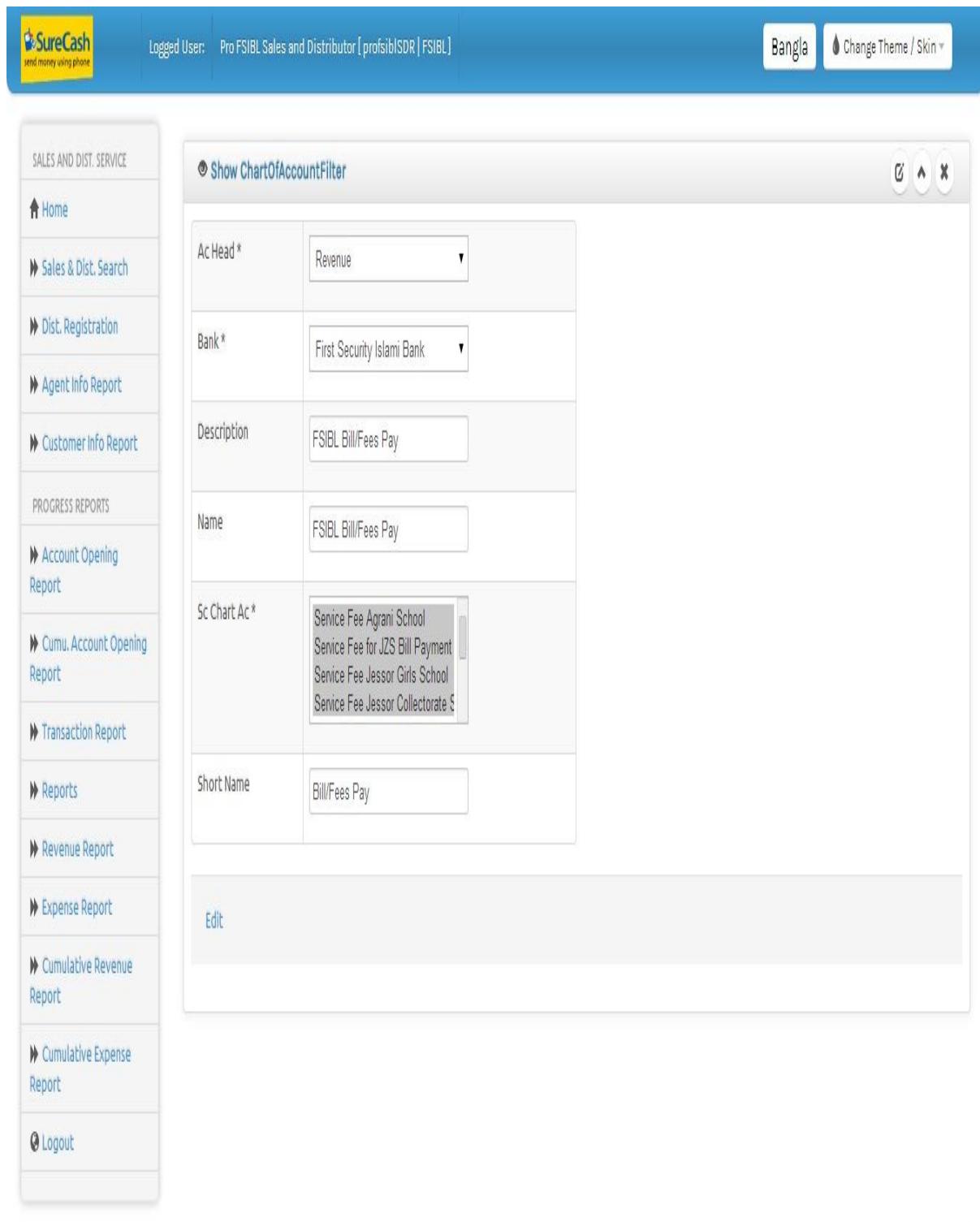
Logged User: Pro FSIBL Sales and Distributor [profsiblSDR | FSIBL]
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ChartOfAccountFilter List

Ac Head	Bank	Description	Name	Sc Chart Ac	Short Name
2	Test Bank 1	TB1 Tax	TB1 Tax	[Income Tax Payable]	Tax
2	Test Bank 1	TB1 Vat	TB1 Vat	[VAT Payable]	Vat
3	Test Bank 1	TB1 Registration Commission	TB1 Registration Commission	[Org Agent Commission AC Opening, Distributor Commission - Account Opening, Agent Commission - Account Opening, Branch Agent Commission Ac Opening]	Registration Commission
3	Test Bank 1	TB1 Transaction Commission	TB1 Transaction Commission	[Distributor Commission - Cash Deposit, Agent Commission - Cash Withdrawal, Agent Commission - Cash Deposit, Org Agent Commission Cash Deposit, Branch Agent Commission Cash Deposit, Org Agent Commission Cash Withdraw, Distributor Commission - Cash Withdraw, Branch Agent Commission Cash Withdraw]	Transaction Commission
3	First Security Islami Bank	FSIBL Registration Commission	FSIBL Registration Commission	[Distributor Commission - Account Opening, Agent Commission - Account Opening, Org Agent Commission AC Opening, Branch Agent Commission AC Opening]	Registration Commission
3	First Security Islami Bank	FSIBL Transaction Commission	FSIBL Transaction Commission	[Org Agent Commission Cash Withdraw, Branch Agent Commission Cash Deposit, Agent Commission - Cash Deposit, Distributor Commission Cash Withdraw, Org Agent Commission Cash Deposit, Agent Commission - Cash Withdraw, Distributor Commission Cash Deposit, Branch Agent Commission Cash Withdraw]	Transaction Commission
3	Bangladesh Commerce Bank Limited	BCBL Registration Commission	BCBL Registration Commission	[Agent Commission - Account Opening, Distributor Commission - Account Opening, Br Agent COMmission Ac Opening]	Registration Commission
3	Bangladesh Commerce Bank Limited	BCBL Transaction Commission	BCBL Transaction Commission	[Br Agent Commission Cash Withdraw, Agent Commission - Cash Withdrawal, Br Agent Commission Deposit, Dist Commission Cash Withdraw, Agent Commission - Cash Deposit, Distributor Commission Cash Deposit]	Transaction Commission
4	Test Bank 1	TB1 Cash Withdrawal	TB1 Cash Withdrawal	[Service Fee - Customer - Cash Withdrawal]	Withdrawal
4	Test Bank 1	TB1 Money Transfer	TB1 Money Transfer	[Service Fee - Customer - Money Transfer]	Money Transfer

Showing 1 to 10 of 21 entries

← Previous
1
2
3
Next →



The screenshot shows a software application window titled "Show ChartOfAccountFilter". The left sidebar contains a navigation menu with categories like "SALES AND DIST. SERVICE" and "PROGRESS REPORTS", each with several sub-options. The main form has the following fields:

Ac Head*	Revenue
Bank*	First Security Islami Bank
Description	FSIBL Bill/Fees Pay
Name	FSIBL Bill/Fees Pay
Sc Chart Ac*	<ul style="list-style-type: none"> Service Fee Agrani School Service Fee for JZS Bill Payment Service Fee Jessor Girls School Service Fee Jessor Collectorate S
Short Name	Bill/Fees Pay

At the bottom of the form, there is an "Edit" button.



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SALES AND DIST. SERVICE
Home
Sales & Dist. Search
Dist. Registration
Agent Info Report
Customer Info Report
PROGRESS REPORTS
Account Opening Report
Cumu. Account Opening Report
Transaction Report
Reports
Revenue Report
Expense Report
Cumulative Revenue Report
Cumulative Expense Report
Logout

Create ChartOfAccountFilter

Bank *

Short Name *

Name *

Description *

Ac Head *

Sc Chart Ac *



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- DISTRIBUTOR SELF SERVICE
- ▶ Home
 - ▶ Self Statement
 - ▶ Default limit
 - ▶ Change PIN
- AGENT SERVICES
- ▶ Agent Registration
 - ▶ Agent Deposit
 - ▶ Agent Withdraw
- SR SERVICES
- ▶ SR Registration
 - ▶ Assign SR
 - ▶ SR Limit
- MEMBER SEARCH
- ▶ Agent/SR Search
- WALLET STATEMENT
- ▶ Agent/SR Statement
- Logout

Set SR Limit

SR Wallet *

Default Limit *

Daily Limit *



Logged User: BCBL Distributor [018471500373 | BCBL]

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DISTRIBUTOR SELF SERVICE

- [Home](#)
- [Self Statement](#)
- [Default limit](#)
- [Change PIN](#)
-
- AGENT SERVICES
- [Agent Registration](#)
- [Agent Deposit](#)
- [Agent Withdraw](#)
-
- SR SERVICES
- [SR Registration](#)
- [Assign SR](#)
- [SR Limit](#)
-
- MEMBER SEARCH
- [Agent/SR Search](#)
-
- WALLET STATEMENT
- [Agent/SR Statement](#)
-
- [Logout](#)

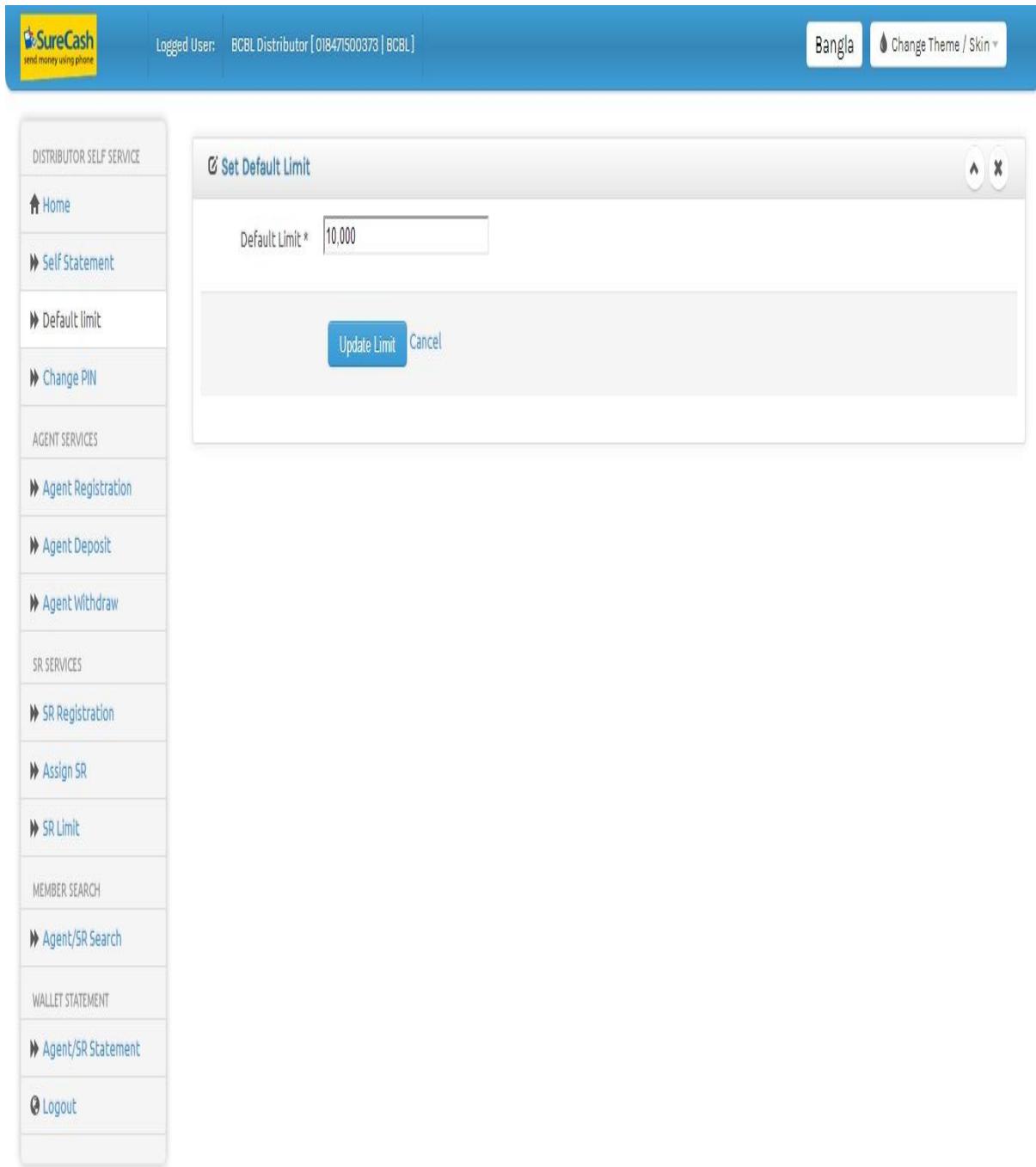
Set SR Limit

SR Wallet *

Default Limit *

Daily Limit *

[Edit Limit](#) [Cancel](#)



The screenshot shows the SureCash Distributor Self Service interface. On the left is a vertical navigation menu with sections: DISTRIBUTOR SELF SERVICE (Home, Self Statement, Default limit, Change PIN), AGENT SERVICES (Agent Registration, Agent Deposit, Agent Withdraw), SR SERVICES (SR Registration, Assign SR, SR Limit), MEMBER SEARCH (Agent/SR Search), and WALLET STATEMENT (Agent/SR Statement). At the top, there's a header bar with the SureCash logo, the logged user information (BCBL Distributor [018471500373 | BCBL]), and language selection buttons for Bangla and Change Theme / Skin.

Set Default Limit

Default Limit *

Update Limit Cancel



Logged User: BCBL Distributor [018471500373 | BCBL]

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- DISTRIBUTOR SELF SERVICE
 - Home
 - Self Statement
 - Default limit
 - Change PIN
- AGENT SERVICES
 - Agent Registration
 - Agent Deposit
 - Agent Withdraw
- SR SERVICES
 - SR Registration
 - Assign SR
 - SR Limit
- MEMBER SEARCH
 - Agent/SR Search
- WALLET STATEMENT
 - Agent/SR Statement
- Logout

Set Default Limit

Default Limit *

[Edit Limit](#) [Cancel](#)



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SALES AND DIST. SERVICE	
	Home
	Sales & Dist. Search
	Dist. Registration
	Agent Info Report
	Customer Info Report
PROGRESS REPORTS	
	Account Opening Report
	Cumulative Account Opening Report
	Transaction Report
	Reports
	Revenue Report
	Expense Report
	Cumulative Revenue Report
	Cumulative Expense Report
	Logout

SureCash Account Opening

Search Criteria

From:	December-2013	Bank:	FSIBL
Date Range	To : May-2014	<input type="button" value="Search"/> <input type="button" value="Reset"/>	

SureCash Month-wise Cumulative Account Opening Report

Total Months: 6 [Dec-13 to May-14]

Month	Customer	Distributor	Merchant	OB-Agent	Org-Agent	Agent
Upto Dec-13	3395	17	5	128	1	186
Jan-14	7660	35	5	206	2	4275
Feb-14	16941	55	6	332	3	8259
Mar-14	38027	67	10	414	3	13328
Apr-14	70278	67	12	462	3	15482
May-14	87606	70	14	462	3	16382

Showing 1 to 6 of 6 entries

← Previous	1	Next →
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Logged User: Pro FSIBL Sales and Distributor [profisiblSDR | FSIBL]

Bangla

SALES AND DIST. SERVICE	
	Home
	Sales & Dist. Search
	Dist. Registration
	Agent Info Report
	Customer Info Report
PROGRESS REPORTS	
	Account Opening Report
	Cumulative Account Opening Report
	Transaction Report
	Reports
	Revenue Report
	Expense Report
	Cumulative Revenue Report
	Cumulative Expense Report
	Logout

SureCash Account Opening Search

Search Criteria

Date Range	From : December-2013	Bank	FSIBL
	To : May-2014		Search Reset

SureCash Month-wise Account Opening Report [FSIBL]

Total Months: 6 [Dec-13 to May-14]

Month	Customer	Distributor	Merchant	OB-Agent	Org-Agent	Agent
Dec-13	1190	15	1	17	0	137
Jan-14	4265	18	0	78	1	4089
Feb-14	9281	20	1	126	1	3984
Mar-14	21086	12	4	82	0	5069
Apr-14	32251	0	2	48	0	2154
May-14	17322	3	2	0	0	900

Showing 1 to 6 of 6 entries

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- [ReportSetting](#)
- [ScSettlementTrxn](#)
- [ScTransactionType](#)
- [Security](#)
- [SettlementReportList](#)
- [SureCashUserLog](#)
- [SwAuthority](#)
- [SwFeature](#)
- [SwTransferType](#)
- [SwUIUserLog](#)
- [SwUser](#)
- [SwUserType](#)
- [TrxStatus](#)
- [Jasper](#)
- [JasperDemo](#)
- [Logout](#)

Search Interbank Transaction

Transaction Between:	Bank	FSIBL	Bank	All
	Transaction Type	All	Transaction Status	All
Date Range:	From	02/03/2014	To	03/17/2014

[View Transaction](#)

Interbank Transaction Report

Export to PDF or XLS

Sl. No	IB Txn ID	Txn Time	Txn Type	Issuer Account	Issuer Bank	Acquirer Account	Acquirer Bank	Transaction	Txn Status
1	SW0000000007	2014-03-16 17:39:06.0	DEPOSIT	015341282846	FSIBL	015547402006	BCBL	Issuer Bank Principle Dr. 10.00 Acquirer Bank Principle Cr. 10.00 Issuer Bank IB Fees Cr. 2.00 Acquirer Bank IB Fees Dr. 2.00	PROCESSED
2	SW0000000008	2014-03-16 17:39:13.0	DEPOSIT	015341282846	FSIBL	015547402006	TB1	Issuer Bank Principle Dr. 15.00 Acquirer Bank Principle Cr. 15.00 Issuer Bank IB Fees Cr. 2.00 Acquirer Bank IB Fees Dr. 2.00	PROCESSED
3	SW0000000009	2014-03-16 17:39:15.0	DEPOSIT	015341282846	FSIBL	015547402006	NCC	Issuer Bank Principle Dr. 10.00 Acquirer Bank Principle Cr. 10.00 Issuer Bank IB Fees Cr. 2.00 Acquirer Bank IB Fees Dr. 2.00	PROCESSED
4	SW0000000010	2014-03-16 17:39:16.0	DEPOSIT	015341282846	FSIBL	015547402006	NCCB	Issuer Bank Principle Dr. 15.00 Acquirer Bank Principle Cr. 15.00 Issuer Bank IB Fees Cr. 2.00 Acquirer Bank IB Fees Dr. 2.00	PROCESSED
5	SW0000000011	2014-03-16 17:39:18.0	DEPOSIT	015341282846	FSIBL	015547402006	BCBL	Issuer Bank Principle Dr. 10.00 Acquirer Bank Principle Cr. 10.00 Issuer Bank IB Fees Cr. 2.00 Acquirer Bank IB Fees Dr. 2.00	PROCESSED
6	SW0000000012	2014-03-16 17:39:19.0	DEPOSIT	015341282846	FSIBL	015547402006	TB1	Issuer Bank Principle Dr. 15.00 Acquirer Bank Principle Cr. 15.00 Issuer Bank IB Fees Cr. 2.00 Acquirer Bank IB Fees Dr. 2.00	PROCESSED
7	SW0000000013	2014-03-16 17:39:21.0	DEPOSIT	015341282846	FSIBL	015547402006	SIBL	Issuer Bank Principle Dr. 15.00 Acquirer Bank Principle Cr. 15.00 Issuer Bank IB Fees Cr. 2.00 Acquirer Bank IB Fees Dr. 2.00	PROCESSED
8	SW0000000014	2014-03-16 17:39:22.0	DEPOSIT	015341282846	FSIBL	015547402006	MYB	Issuer Bank Principle Dr. 15.00 Acquirer Bank Principle Cr. 15.00 Issuer Bank IB Fees Cr. 2.00 Acquirer Bank IB Fees Dr. 2.00	PROCESSED
9	SW0000000015	2014-03-16 17:39:23.0	DEPOSIT	015341282846	FSIBL	015547402006	NCC	Issuer Bank Principle Dr. 21.00 Acquirer Bank Principle Cr. 21.00 Issuer Bank IB Fees Cr. 2.00 Acquirer Bank IB Fees Dr. 2.00	PROCESSED
10	SW0000000016	2014-03-16 17:39:25.0	DEPOSIT	015341282846	BCBL	015547402006	FSIBL	Issuer Bank Principle Dr. 21.00 Acquirer Bank Principle Cr. 21.00 Issuer Bank IB Fees Cr. 2.00 Acquirer Bank IB Fees Dr. 2.00	PROCESSED

 SureCash
Send money using phone
Logged User: Pro FSIBL Sales and Distributor [profsiblSDR | FSIBL]
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SureCash Month-wise Expense

Search Criteria

Date Range	From : <input type="text" value="December-2013"/>	Bank	<input type="text" value="FSIBL"/>
	To : <input type="text" value="May-2014"/>		<input type="button" value="Search"/> <input type="button" value="Reset"/>

SureCash Month-wise Cumulative Expense Report

Total Months: 6 [Dec-13 to May-14]

10 ▾	records per page	Search: <input type="text"/>	
Month	Registration Commission	Transaction Commission	Total Expense
Upto Dec-13	19,880.00	2,713.81	22,593.81
Jan-14	66,275.00	25,220.12	91,495.12
Feb-14	72,210.00	26,622.15	98,832.15
Mar-14	112,035.00	34,061.51	146,096.51
Apr-14	434,915.00	50,809.10	485,724.10
May-14	632,145.00	140,323.87	772,468.87

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SureCash send money using phone
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SureCash Month-wise Expense Search

Search Criteria

Date Range	From: December-2013	Bank	FSIBL
	To : May-2014		Search Reset

SureCash Month-wise Expense Report [FSIBL]

Total Months: 6 [Dec-13 to May-14]

Month	Registration Commission	Transaction Commission	Total
Dec-13	6,290.00	388.85	6,678.85
Jan-14	46,395.00	22,506.31	68,901.31
Feb-14	5,935.00	1,402.03	7,337.03
Mar-14	39,825.00	7,439.35	47,264.35
Apr-14	322,880.00	16,747.59	339,627.59
May-14	197,150.00	89,514.77	286,664.77

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Customer Info Report

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Cumu. Account Opening Report

Transaction Report

Reports

Revenue Report

Expense Report

Cumulative Revenue Report

Cumulative Expense Report

Logout

© SureCash Month-wise Revenue Search

Search Criteria

Date Range	From : December-2013	Bank	FSIBL
	To : May-2014		<input type="button" value="Search"/> <input type="button" value="Reset"/>

SureCash Month-wise Cumulative Revenue Report

Total Months: 6 [Dec-13 to May-14]

10 ▼ records per page

Search:

Month	Withdrawal	Money Transfer	Bill/Fees Pay	Bank Cash Out	Total Revenue
Upto Dec-13	1,347.72	70.44	3,380.30	378.25	5,176.70
Jan-14	1,828.73	110.44	34,706.48	378.25	37,023.89
Feb-14	2,127.80	127.83	36,366.20	378.25	39,000.08
Mar-14	2,330.84	141.74	43,907.37	378.25	46,758.21
Apr-14	2,838.20	162.61	70,209.56	378.25	73,588.62
May-14	5,923.58	781.77	189,700.62	378.25	196,784.21

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- [Cumulative Revenue Report](#)
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- [Logout](#)

SureCash Month-wise Revenue Search

Search Criteria

Date Range	From: <input type="text" value="December-2013"/>	Bank	<input type="text" value="FSIBL"/>
	To: <input type="text" value="May-2014"/>		<input type="button" value="Search"/> <input type="button" value="Reset"/>

SureCash Month-wise Revenue Report [FSIBL]

Total Months: 6 [Dec-13 to May-14]

Month	Withdrawal	Money Transfer	Bill/Fees Pay	Bank Cash Out	Total Revenue
Dec-13	569.94	6.96	3.48	0.00	580.37
Jan-14	481.01	40.00	31,326.18	0.00	31,847.19
Feb-14	299.08	17.39	1,659.72	0.00	1,976.19
Mar-14	203.04	13.91	7,541.17	0.00	7,758.13
Apr-14	507.35	20.87	26,302.19	0.00	26,830.42
May-14	3,085.38	619.16	119,491.06	0.00	123,195.59

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<input type="button" value="← Previous"/>	1	Next →
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- [SwAuthority](#)
- [SwFeature](#)
- [SwTransferType](#)
- [SwJUUserLog](#)
- [SwUser](#)
- [SwUserType](#)
- [TrxStatus](#)
- [Jasper](#)
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☰ SureCash Settlement Report

Bank	FSIBL	Transaction Type	All
Transaction Status	PROCESSED	Date	03/16/2014

[View Transaction](#)

☰ SureCash Settlement Report

Results (10) | | | Export to PDF or XLS

SL No	IB Txn ID	Txn Time	Txn Type	Issuer Account	Issuer Bank	Acquirer Account	Acquirer Bank	FSIBL Transfer AC			Remote Bank Transfer AC			Txn Status		
								Principal Dr.	Principal Cr.	IB Fees Dr.	IB Fees Cr.	Principal Dr.	Principal Cr.		IB Fees Dr.	IB Fees Cr.
1	SW0000000007	2014-03-16 17:39:06.0	DEPOSIT	015341282846	FSIBL	015547402006	BCBL	10.00		2.00		10.00	2.00		PROCESSED	
2	SW0000000008	2014-03-16 17:39:13.0	DEPOSIT	015341282846	FSIBL	015547402006	TB1	15.00		2.00		15.00	2.00		PROCESSED	
3	SW0000000009	2014-03-16 17:39:15.0	DEPOSIT	015341282846	FSIBL	015547402006	NCC	10.00		2.00		10.00	2.00		PROCESSED	
4	SW0000000010	2014-03-16 17:39:16.0	DEPOSIT	015341282846	FSIBL	015547402006	NCCB	15.00		2.00		15.00	2.00		PROCESSED	
5	SW0000000011	2014-03-16 17:39:18.0	DEPOSIT	015341282846	FSIBL	015547402006	BCBL	10.00		2.00		10.00	2.00		PROCESSED	
6	SW0000000012	2014-03-16 17:39:19.0	DEPOSIT	015341282846	FSIBL	015547402006	TB1	15.00		2.00		15.00	2.00		PROCESSED	
7	SW0000000013	2014-03-16 17:39:21.0	DEPOSIT	015341282846	FSIBL	015547402006	SIBL	15.00		2.00		15.00	2.00		PROCESSED	
8	SW0000000014	2014-03-16 17:39:22.0	DEPOSIT	015341282846	FSIBL	015547402006	MIYB	15.00		2.00		15.00	2.00		PROCESSED	
9	SW0000000015	2014-03-16 17:39:23.0	DEPOSIT	015341282846	FSIBL	015547402006	NCC	21.00		2.00		21.00	2.00		PROCESSED	
10	SW0000000016	2014-03-16 17:39:25.0	DEPOSIT	015341282846	BCBL	015547402006	FSIBL		21.00	2.00	21.00		2.00		PROCESSED	
								Sub Total	126.00	21.00	2.00	20.00	21.00	126.00	18.00	2.00
								Net Principal Balance	-105.00			105.00				
								Net IB Fees	18.00			-16.00				
								Net Balance	-87.00			89.00				


Logged User: Pro FSIBL Sales and Distributor [profsiblSDR | FSIBL]
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- [Revenue Report](#)
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- [Cumulative Expense Report](#)
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SureCash Transaction Search

Search Criteria

Date Range	<input type="text" value="From: December-2013"/>	Bank	<input type="text" value="FSIBL"/>
	<input type="text" value="To : May-2014"/>		<input type="button" value="Search"/> <input type="button" value="Reset"/>

SureCash Month-wise Total Transaction Report [FSIBL]

Total Months: 6 [Dec-13 to May-14]

records per page					Search:
10	<input type="button" value="▼"/>				
					<input type="text"/>
Month	Withdrawal	Send Money(P2P)	Bill/Fees Pay	Deposit	
Dec-13	7	4	1	492	
Jan-14	38	23	3804	3752	
Feb-14	22	7	334	429	
Mar-14	20	4	1196	460	
Apr-14	59	6	5262	2252	
May-14	136	178	9946	7860	

Showing 1 to 6 of 6 entries

<input type="button" value="← Previous"/>	1	<input type="button" value="Next →"/>
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SureCash Month-wise Trxn Amount Report [FSIBL]

Total Months: 6 [Dec-13 to May-14]

records per page					Search:
10	<input type="button" value="▼"/>				<input type="text"/>
Month	Withdrawal	Send Money(P2P)	Bill/Fees Pay	Deposit	
Dec-13	35,505.00		35,950.00	380.00	69,905.00
Jan-14	28,732.00		15,913.00	3,579,071.00	3,854,588.15
Feb-14	18,065.00		1,236.00	174,095.00	209,027.00
Mar-14	11,525.00		111.00	849,760.00	1,193,591.00
Apr-14	26,457.98		1,515.00	2,869,484.00	2,686,170.00
May-14	194,100.00		187,828.60	13,696,984.00	14,304,112.00

Showing 1 to 6 of 6 entries

<input type="button" value="← Previous"/>	1	<input type="button" value="Next →"/>
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Logged User: Pro FSIBL Sales and Distributor [profislsDR | FSIBL]

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Cumulative Expense Report
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SureCash Transaction Search

Search Criteria

From :	January-2013	Bank	FSIBL
Date Range			
To :	May-2014	<input type="button" value="Search"/> <input type="button" value="Reset"/>	
<input style="width: 20px; height: 20px; border: none; border-radius: 5px; padding: 2px; margin: 2px;" type="button" value="May"/> 2014 <input style="width: 20px; height: 20px; border: none; border-radius: 5px; padding: 2px; margin: 2px;" type="button" value="May"/>			
<input type="button" value="Today"/> <input type="button" value="Done"/>			

SureCash Month-wise Total Transaction Report [FSIBL]

Total Months: 17 [Jan-13 to May-14]				
10	records per page	Search:		
Month	Withdrawal	Send Money(P2P)	Bill/Fees Pay	Deposit
Jan-13	0	3	34	390
Feb-13	1	2	20	33
Mar-13	0	0	23	14
Apr-13	0	0	21	24
May-13	2	0	10	16
Jun-13	1	0	15	16
Jul-13	1	0	6	369
Aug-13	0	0	4	38
Sep-13	0	10	11	100
Oct-13	0	0	5	26

Showing 1 to 10 of 17 entries

← Previous	1	2	Next →
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SureCash Month-wise Trxn Amount Report [FSIBL]

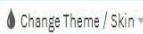
Total Months: 17 [Jan-13 to May-14]				
10	records per page	Search:		
Month	Withdrawal	Send Money(P2P)	Bill/Fees Pay	Deposit
Jan-13	0.00		102.00	202,820.00
Feb-13	50.00		40.00	51,690.00
Mar-13	0.00		0.00	62,490.00
Apr-13	0.00		0.00	24,575.00
May-13	15,000.00		0.00	9,005.00
Jun-13	15,000.00		0.00	21,940.00
Jul-13	5,000.00		0.00	4,805.00
Aug-13	0.00		0.00	4,210.00
Sep-13	0.00		423.00	2,329.00
Oct-13	0.00		0.00	5,856.00

Showing 1 to 10 of 17 entries

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Send money using phone

Logged User: RESOURCE DEVELOPMENT FOUNDATION (RDF) [017330655998 | FSIBL]

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Detail Account Opening Report

Search Criteria

	From: <input type="text"/>	Status : <input type="button" value="Select All"/>
Date Range	To : <input type="text"/>	<input type="button" value="Search"/> <input type="button" value="Reset"/>

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- WALLET STATEMENT**
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Detail Account Opening Report

Search Criteria

From :	<input type="text" value="30/01/2014"/>	Status :	<input type="button" value="Select All"/>
Date Range			
To :	<input type="text" value="29/05/2014"/>	<input type="button" value="Search"/> <input type="button" value="Reset"/>	

Detail Account Opening Report [017330655998]

Total: 12419 Date Range: 30/01/2014 to 29/05/2014

SL No	OB-Agent Wallet	OB-Agent Name	Customer Wallet	Customer Name	Status	Registration Date	Activation Date
1	017926194139	RDF Malkhanagar SS 01	017455209902	MD.MIJANUR RAHAMAN	Active	2014-03-08 02:28:14	2014-03-08 02:28:14
2	017926194139	RDF Malkhanagar SS 01	017635334034	MD.MOFAZZAL HOSSAIN	Active	2014-03-08 03:17:31	2014-03-08 03:17:31
3	017926194139	RDF Malkhanagar SS 01	017103314963	MD.SAJIB HAWLADER	Active	2014-03-08 03:26:08	2014-03-08 03:26:08
4	017926194139	RDF Malkhanagar SS 01	019127548386	MD.FOYSAL SARDER	Active	2014-03-08 03:35:16	2014-03-08 03:35:16
5	017926194139	RDF Malkhanagar SS 01	015595076751	METHUN AMHAMMHID	Pending	2014-03-08 03:44:43	2014-03-08 03:44:43
6	017926194139	RDF Malkhanagar SS 01	019811923515	REJAUL KARIM	Active	2014-03-10 07:57:51	2014-03-10 07:57:51
7	017926194139	RDF Malkhanagar SS 01	017149260022	MD.AMIRUL ISLAM	Active	2014-03-10 08:02:26	2014-03-10 08:02:26
8	017926194139	RDF Malkhanagar SS 01	017239778412	MD.JALIL KABIR	Active	2014-03-11 02:05:24	2014-03-11 02:05:24
9	017926194139	RDF Malkhanagar SS 01	017485603868	REJUL KARIM	Active	2014-03-11 02:17:18	2014-03-11 02:17:18
10	017926194139	RDF Malkhanagar SS 01	019637274812	JARNA BEGUM	Active	2014-03-11 03:36:01	2014-03-11 03:36:01
11	017926194139	RDF Malkhanagar SS 01	019266456375	PIYARA BEGUM	Active	2014-03-11 03:57:02	2014-03-11 03:57:02
12	017926194139	RDF Malkhanagar SS 01	018432540633	SANKAR MONDAL	Pending	2014-03-11 04:14:42	2014-03-11 04:14:42
13	017926194139	RDF Malkhanagar SS 01	017800364873	ROKEYA	Active	2014-03-11 04:33:57	2014-03-11 04:33:57
14	017926194139	RDF Malkhanagar SS 01	019679414961	ROKEYA BEGUM	Pending	2014-03-11 04:41:08	2014-03-11 04:41:08
15	017926194139	RDF Malkhanagar SS 01	017788056160	MD.NAZRUL ISLAM	Pending	2014-03-11 04:59:49	2014-03-11 04:59:49
16	017926194139	RDF Malkhanagar SS 01	017779820681	AMENA	Active	2014-03-11 05:02:45	2014-03-11 05:02:45
17	017926194139	RDF Malkhanagar SS 01	017309242661	MD.FARUK SHEIKH	Active	2014-03-11 05:27:49	2014-03-11 05:27:49
18	017926194139	RDF Malkhanagar SS 01	017277029124	AMENA	Pending	2014-03-11 05:30:53	2014-03-11 05:30:53
19	017926194139	RDF Malkhanagar SS 01	019537290967	SALINA BEGUM	Active	2014-03-11 05:36:57	2014-03-11 05:36:57
20	017926194139	RDF Malkhanagar SS 01	017932612538	MD HABIB	Active	2014-03-12 08:05:23	2014-03-12 08:05:23

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Detail Account Opening Report

Search Criteria

From:	<input type="text" value="01/01/2014"/>	Status :	<input type="button" value="Active"/>
Date Range			
To :	<input type="text" value="29/05/2014"/>	<input type="button" value="Search"/>	<input type="button" value="Reset"/>

Detail Account Opening Report [017330655998]

Total: 2319 Date Range: 01/01/2014 to 29/05/2014

SL No	OB-Agent Wallet	OB-Agent Name	Customer Wallet	Customer Name	Status	Registration Date	Activation Date
1	017926194139	RDF Malkhanagar SS 01	017455209902	MD.MIJANUR RAHAMAN	Active	2014-03-08 02:28:14	2014-03-08 02:28:14
2	017926194139	RDF Malkhanagar SS 01	017635334034	MD.MOFAZZAL HOSSAIN	Active	2014-03-08 03:17:31	2014-03-08 03:17:31
3	017926194139	RDF Malkhanagar SS 01	017103314963	MD.SAJIB HAWLADER	Active	2014-03-08 03:26:08	2014-03-08 03:26:08
4	017926194139	RDF Malkhanagar SS 01	019127548386	MD.FOYSAL SARDER	Active	2014-03-08 03:35:16	2014-03-08 03:35:16
5	017926194139	RDF Malkhanagar SS 01	019811923515	REJAUL KARIM	Active	2014-03-10 07:57:51	2014-03-10 07:57:51
6	017926194139	RDF Malkhanagar SS 01	017149260022	MD.AMIRUL ISLAM	Active	2014-03-10 08:02:26	2014-03-10 08:02:26
7	017926194139	RDF Malkhanagar SS 01	017239778412	MD.JALIL KABIR	Active	2014-03-11 02:05:24	2014-03-11 02:05:24
8	017926194139	RDF Malkhanagar SS 01	017485603868	REJUL KARIM	Active	2014-03-11 02:17:18	2014-03-11 02:17:18
9	017926194139	RDF Malkhanagar SS 01	019637274812	JARNA BEGUM	Active	2014-03-11 03:36:01	2014-03-11 03:36:01
10	017926194139	RDF Malkhanagar SS 01	019266456375	PIYARA BEGUM	Active	2014-03-11 03:57:02	2014-03-11 03:57:02
11	017926194139	RDF Malkhanagar SS 01	017800364873	ROKEYA	Active	2014-03-11 04:33:57	2014-03-11 04:33:57
12	017926194139	RDF Malkhanagar SS 01	017779820681	AMENA	Active	2014-03-11 05:02:45	2014-03-11 05:02:45
13	017926194139	RDF Malkhanagar SS 01	017309242661	MD.FARUK SHEIKH	Active	2014-03-11 05:27:49	2014-03-11 05:27:49
14	017926194139	RDF Malkhanagar SS 01	019537290967	SALINA BEGUM	Active	2014-03-11 05:36:57	2014-03-11 05:36:57
15	017926194139	RDF Malkhanagar SS 01	017932612538	MD.HABIB	Active	2014-03-12 08:05:23	2014-03-12 08:05:23
16	017926194139	RDF Malkhanagar SS 01	017377473552	MD.AMIRUL ISLAM	Active	2014-03-12 09:04:43	2014-03-12 09:04:43
17	017926194139	RDF Malkhanagar SS 01	019662098284	MAHFUJA BEGUM	Active	2014-03-12 09:31:47	2014-03-12 09:31:47
18	017926194139	RDF Malkhanagar SS 01	019130450174	REJAUL KARIM	Active	2014-03-12 10:24:19	2014-03-12 10:24:19
19	017926194139	RDF Malkhanagar SS 01	019553663618	RUMA BEGUM	Active	2014-03-12 10:30:54	2014-03-12 10:30:54
20	017926194139	RDF Malkhanagar SS 01	019893796391	MD.AMIRUL ISLAM	Active	2014-03-12 10:39:29	2014-03-12 10:39:29

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- Cash Payment

WALLET STATEMENT

- OB Statement

Logout

Detail Account Opening Report

Search Criteria

Date Range	From: 29/05/2014 <input type="button" value=""/>	Status : Select All <input type="button" value=""/>
	To : 29/05/2014 <input type="button" value=""/>	<input type="button" value="Search"/> <input type="button" value="Reset"/>

Detail Account Opening Report [017330655998]

Total: 0 Date Range: 29/05/2014 to 29/05/2014

No data found.

SureCash send money using phone

Logged User: RESOURCE DEVELOPMENT FOUNDATION (RDF) [017330655998 | FSIBL]

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Account Opening Summary

Search Criteria

From:	<input type="text"/>	<input type="button" value=""/>
Date Range	To :	<input type="text"/>
		<input type="button" value="Search"/> <input type="button" value="Reset"/>

SureCash
Send money using phone

Logged User: RESOURCE DEVELOPMENT FOUNDATION (RDF) [017330655998 | FSIBL]

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Account Opening Summary

Search Criteria

From:	29/05/2014	[Calendar]
Date Range	To : 29/05/2014	[Calendar]
		Search Reset

Account Opening Summary Report [017330655998]

Total: [0], Date Range: 29/05/2014 to 29/05/2014

No data found.

Logged User: RESOURCE DEVELOPMENT FOUNDATION (RDF) [017330655998 | FSIBL]
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Account Opening Summary

Search Criteria

Date Range	From : <input type="text" value="01/01/2014"/>	To : <input type="text" value="29/05/2014"/>	<input type="button" value="Search"/> <input type="button" value="Reset"/>
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Account Opening Summary Report [017330655998]

Total: [80], Date Range: 01/01/2014 to 29/05/2014

SL No	OB-Agent Name	OB-Agent Wallet	Active	Pending	Pre-expired	Total Acquisition
1	RDF Barguna BM	017330655410	5	24		29
2	RDF Chandukhali BM	017330655436	33	76		109
3	RDF Amua BM	017330655444	3	5		8
4	RDF Kumir mara BM	017330655451	15	53		68
5	RDF Fujihori BM	017330655469	20	7		27
6	RDF Mothbaria BM	017330655477	4	62		66
7	RDF Amtoli Sadar BM	017330655485		41		41
8	RDF Khaserhat BM	017330655493	6	53		59
9	RDF Fatullah BM	017330655501	1	1		2
10	RDF Patuakhali BM	017330655519	3	4		7
11	RDF Dumkoi BM	017330655527	3	22		25
12	RDF Mirjagonj BM	017330655535	12	1		13
13	RDF Betagi BM	017330655543	21	86		107
14	RDF Kalaparba BM	017330655550		2		2
15	RDF kachupattra BM	017330655568	14	10		24
16	RDF Taltoli BM	017330655576	1			1
17	RDF Dhankhali BM	017330655584		1		1
18	RDF Ballatali	017330655592	1			1
19	RDF Pakhimaara BM	017330655618		1		1
20	RDF Munshiganj BM	017330655626	2	90		92
21	RDF Malkhanagar BM	017330655634	10	67		77
22	RDF Sreenagar BM	017330655659		84		84
23	RDF Isapura BM	017330655667	11	121		132
24	RDF Hashara BM	017330655675	16			16

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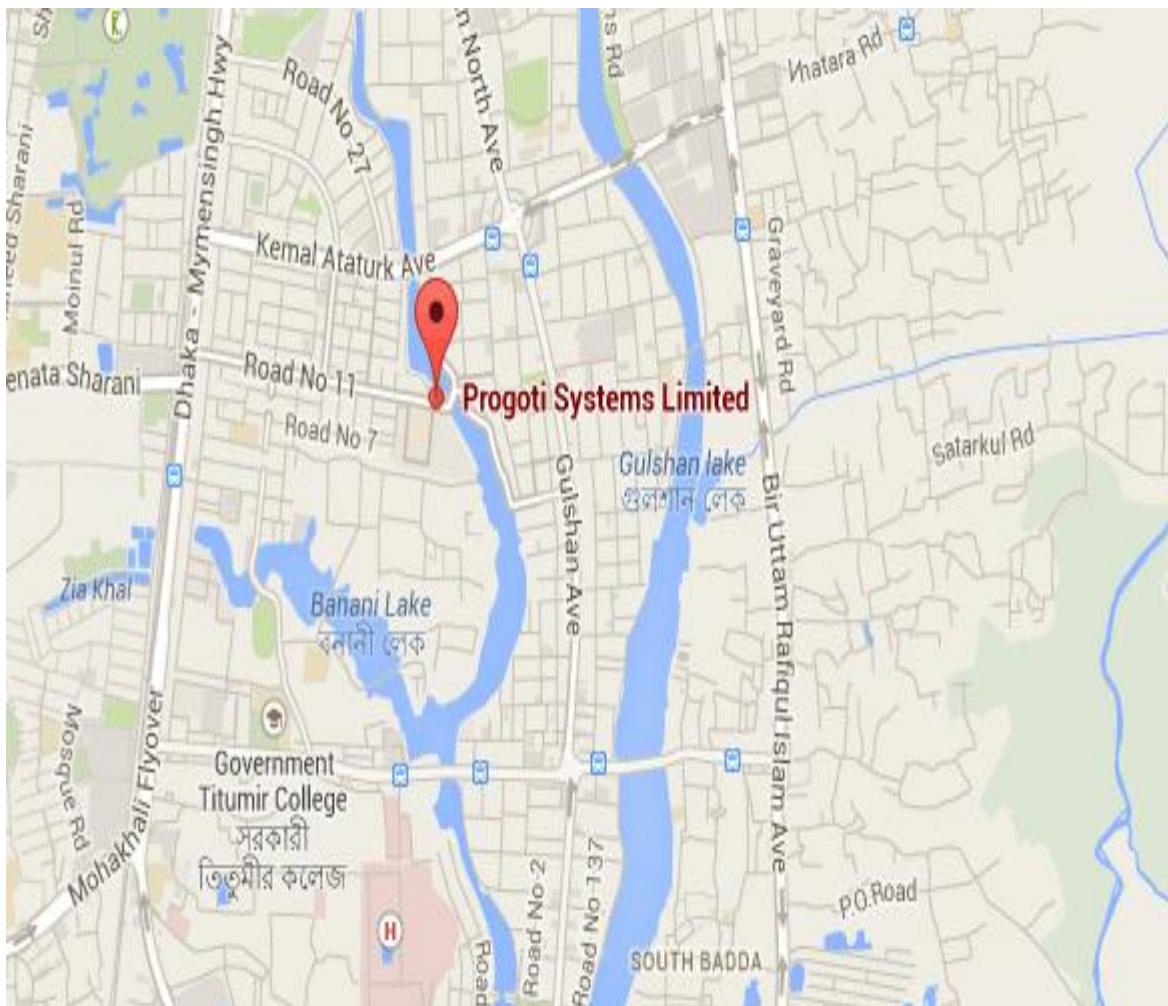
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Appendix B: Bug Fixing & Others

Progoti in Google Map:



Transaction Between

FSIBL & All

Transaction Type: DEPOSIT Transaction Status: PROCESSED
 From Date: 02/03/2014 To Date: 03/17/2014

SureCash Interbank Transaction Report

Total:		10								Txn Status
Serial No.	Transaction Date	Transaction Type	Issuer Account	Issuer Bank	Acquirer Account	Acquirer Bank	Transaction			
1	Mar 16, 2014	DEPOSIT	015341282848	FSIBL	015547402006	BCBL	Issuer Principle Dr.	10.00		PROCESSED
							Issuer IB Fees Cr.	2.00		
							Acquirer Principle Cr.	10.00		
							Acquirer IB Fees Dr.	2.00		
2	Mar 16, 2014	DEPOSIT	015341282848	FSIBL	015547402006	TB1	Issuer Principle Dr.	15.00		PROCESSED
							Issuer IB Fees Cr.	2.00		
							Acquirer Principle Cr.	15.00		
							Acquirer IB Fees Dr.	2.00		

Transaction Between
FSIBL & All

Transaction Type: DEPOSIT **Transaction Status:** PROCESSED
From Date: 02/03/2014 **To Date:** 03/17/2014

SureCash Interbank Transaction

Total:		10								
Serial No.	Transaction Date	Transaction Type	Issuer Account	Issuer Bank	Acquirer Account	Acquirer Bank	Transaction			Txn Status
1	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	BCBL	Issuer Principle Dr.		10.00	PROCESSED
							Issuer IB Fees Cr.		2.00	
							Acquirer Principle Cr.		10.00	
							Acquirer IB Fees Dr.		2.00	
2	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	TB1	Issuer Principle Dr.		15.00	PROCESSED
							Issuer IB Fees Cr.		2.00	
							Acquirer Principle Cr.		15.00	
							Acquirer IB Fees Dr.		2.00	
3	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	NCC	Issuer Principle Dr.		10.00	PROCESSED
							Issuer IB Fees Cr.		2.00	
							Acquirer Principle Cr.		10.00	
							Acquirer IB Fees Dr.		2.00	
4	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	NCCB	Issuer Principle Dr.		15.00	PROCESSED
							Issuer IB Fees Cr.		2.00	
							Acquirer Principle Cr.		15.00	
							Acquirer IB Fees Dr.		2.00	
5	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	BCBL	Issuer Principle Dr.		10.00	PROCESSED
							Issuer IB Fees Cr.		2.00	
							Acquirer Principle Cr.		10.00	
							Acquirer IB Fees Dr.		2.00	
6	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	TB1	Issuer Principle Dr.		15.00	PROCESSED
							Issuer IB Fees Cr.		2.00	
							Acquirer Principle Cr.		15.00	
							Acquirer IB Fees Dr.		2.00	
7	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	SIBL	Issuer Principle Dr.		15.00	PROCESSED
							Issuer IB Fees Cr.		2.00	
							Acquirer Principle Cr.		15.00	
							Acquirer IB Fees Dr.		2.00	
8	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	MYB	Issuer Principle Dr.		15.00	PROCESSED
							Issuer IB Fees Cr.		2.00	
							Acquirer Principle Cr.		15.00	
							Acquirer IB Fees Dr.		2.00	
9	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	NCC	Issuer Principle Dr.		21.00	PROCESSED
							Issuer IB Fees Cr.		2.00	
							Acquirer Principle Cr.		21.00	
							Acquirer IB Fees Dr.		2.00	
10	Mar 16, 2014	DEPOSIT	015341282846	BCBL	015547402006	FSIBL	Issuer Principle Dr.		21.00	PROCESSED
							Issuer IB Fees Cr.		2.00	
							Acquirer Principle Cr.		21.00	
							Acquirer IB Fees Dr.		2.00	

First Security Islami Bank

Transaction Type: All Transaction Type

Transaction Status: PROCESSED

Date: 03/16/2014

SureCash Settlement Report

Total: 10		S I No.	Txn Date	Txn Type	Issuer AC	Issuer Bank	Acquirer AC	Acquirer Bank	FSIBL		Bank Transfer Account		Remote Bank Transfer Account		Status
Principal Dr.	Principal Cr.								IB Fees Dr.	IB Fees Cr.	Principal Dr.	Principal Cr.	IB Fees Dr.	IB Fees Cr.	
1	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402008	BOBL		10.00		2.00		10.00	2.00		PROCESSED
2	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402008	TB1		15.00		2.00		15.00	2.00		PROCESSED
3	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402008	NCC		10.00		2.00		10.00	2.00		PROCESSED
4	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402008	NCCB		15.00		2.00		15.00	2.00		PROCESSED
5	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402008	BCBL		10.00		2.00		10.00	2.00		PROCESSED

First Security Islami Bank

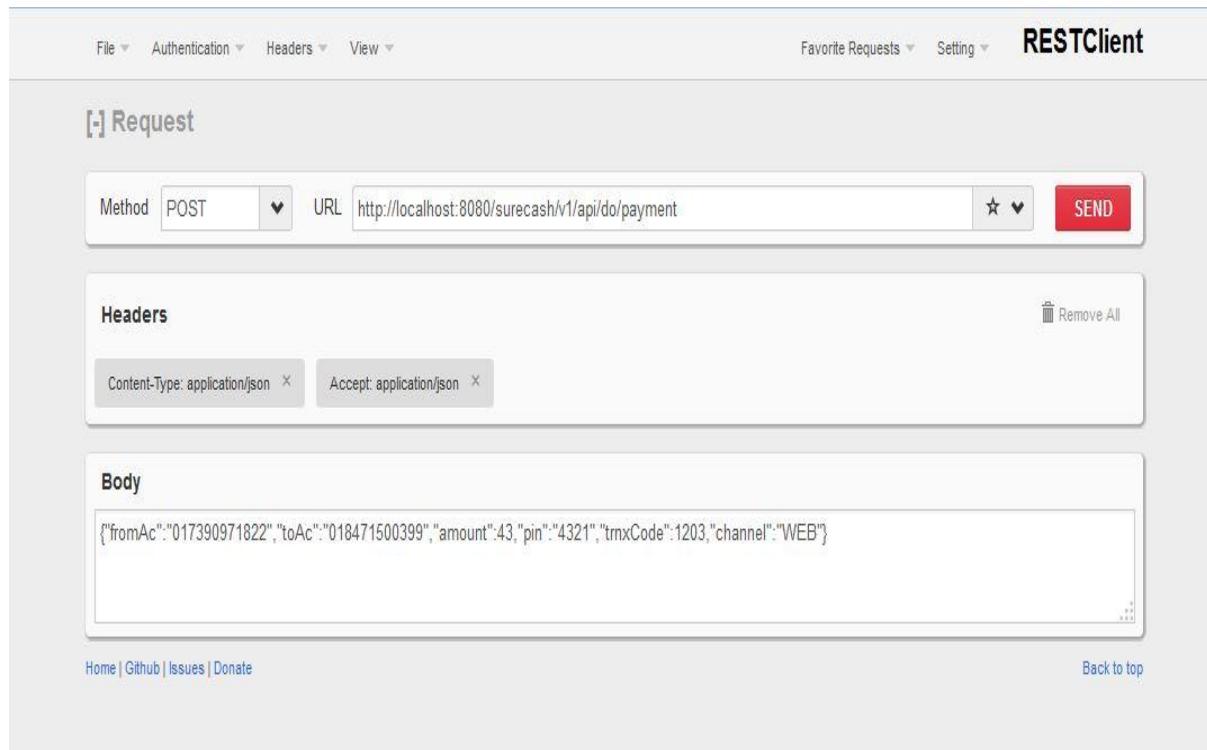
Transaction Type: All Transaction Type

Transaction Status: PROCESSED

Date: 03/16/2014

SureCash Settlement

Total: 10		Sl. No	Txn Date	Txn Type	Issuer AC	Issue r Bank	Acquirer AC	Acquir er Bank	FSIBL		Bank Transfer Account		Remote Bank Transfer Account		Status	
Princip al Dr.	Princip al Cr.								IB Fees Dr.	IB Fees Cr.	Princip al Dr.	Princip al Cr.	IB Fees Dr.	IB Fees Cr.		
1	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	BCBL	10.00			2.00		10.00	2.00			PROCESSED
2	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	TB1	15.00			2.00		15.00	2.00			PROCESSED
3	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	NCC	10.00			2.00		10.00	2.00			PROCESSED
4	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	NCCB	15.00			2.00		15.00	2.00			PROCESSED
5	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	BCBL	10.00			2.00		10.00	2.00			PROCESSED
6	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	TB1	15.00			2.00		15.00	2.00			PROCESSED
7	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	SIBL	15.00			2.00		15.00	2.00			PROCESSED
8	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	MYB	15.00			2.00		15.00	2.00			PROCESSED
9	Mar 16, 2014	DEPOSIT	015341282846	FSIBL	015547402006	NCC	21.00			2.00		21.00	2.00			PROCESSED
10	Mar 16, 2014	DEPOSIT	015341282846	BCBL	015547402006	FSIBL			21.00	2.00		21.00			2.00	PROCESSED
								Sub Total	126.00	21.00	2.00	18.00	21.00	126.00	18.00	2.00
								Net Principal Balance	-105.00					105.00		
								Net IB Fees				16.00			-16.00	
								Net Balance	-89.00				89.00			



The screenshot shows the RESTClient application interface. At the top, there are navigation links: File, Authentication, Headers, View, Favorite Requests, Setting, and a RESTClient logo. Below the header, a title bar says "[] Request". The main area has three sections: "Method" (set to POST), "URL" (http://localhost:8080/surecash/v1/api/do/payment), and a "SEND" button. Under "Headers", there are two entries: Content-Type: application/json and Accept: application/json. In the "Body" section, the JSON payload is displayed:

```
{"fromAc":"017390971822","toAc":"018471500399","amount":43,"pin":"4321","trnxCode":1203,"channel":"WEB"}
```

At the bottom of the interface, there are links to Home, Github, Issues, and Donate, along with a "Back to top" link.

A	B	C	D	E	F
1		System has a maker and a checker. Now lets start, create a branch agent account and do some deposit/withdraw from agent customer and also a p2p transaction. Here normally uses http://192.168.1.30:8080/mysurecashweb/, this address will be used for all web operations			
2					
3					
Test Case Name	Test Case Steps	Test Case Scenario	Result	Comment	
4		Create Branch Agent			
5					
6					
7	Branch agent registration by Maker tb1/Dist./Agent Transaction]	Maker fillup branch agent data,Click on registration and confirm[here type:agent,transaction profile: mobile,then maker fillup this code,finally maker set the pin]	maker fillup all data	successfully done	Be careful about type and transaction profile
8	Checker activate branch agent	Checker activate branch agent	Checker activates branch agent	successfully done	
9	Marker reset pin	Marker send a code to branch agent mobile,then marker fillup this code,finally marker set the pin	Marker send a code to branch agent mobile,then marker fillup this code,finally marker set the pin	there is an error in re-setting pin by customer. When re-setting password, it shows an error	
10					

List of Bugs

- 1. 'Select Range' should be 'Select Date' at Activity Summary page:**
 - Activity Summary
- 2. Replace 'Period : Last Week' to 'This Week':**
 - Activity Summary -> This Week -> Submit
- 3. Replace [] to colon (:) (All subheading):**
 - Activity Summary -> This Week -> Submit
 - Activity Summary -> This Month -> Submit
 - Float A/C Report -> Float A/C Summary -> From Date -> Submit
 - Float A/C Report -> Float A/C Statement -> From Date -> Submit
 - A/C Opening Reports -> A/C Opening Report -> From Date -> Submit
 - A/C Opening Reports -> A/C Opening Details Report -> From Date -> Submit
 - A/C Opening Reports -> Type Wise A/C Opening Report -> Select Customer Type -> From Date -> To Date -> Submit
 - A/C Opening Reports -> Agent Wise A/C Opening Report -> Agent Wallet -> From Date -> To Date -> Submit
 - SureCash Transaction -> Transaction Summary -> From Date -> Submit
 - SureCash Transaction -> Details Transaction Report -> From Date -> Submit
 - Fees & Charges -> Cash Withdraw -> From Date -> Submit
 - Fees & Charges -> P2P -> From Date -> Submit
 - Expenditure -> Account Opening -> From Date -> Submit
 - Expenditure -> Cash Deposit -> From Date -> Submit
 - Bank Deposit -> From Date -> To Date -> Submit
 - Wallet Wise Closing Balance -> Wallet No -> From Date -> To Date -> Submit
 - Agent Income Report -> Wallet No -> From Date -> To Date -> Submit
- 4. 'A/C' becomes 'Account' at page heading (All features):**
 - Float A/C Report -> Float A/C Summary
 - Float A/C Report -> Float A/C Statement
 - A/C Opening Reports -> A/C Opening Report
 - A/C Opening Reports -> A/C Opening Details Report
 - A/C Opening Reports -> Type Wise A/C Opening Report
 - A/C Opening Reports -> Agent Wise A/C Opening Report
- 5. Affairs become 'Daily Affairs' at the heading of affairs page:**
 - Consolidated Report -> Daily Affairs
- 6. Remove BDT from date time (All date time):**
 - Consolidated Report -> Daily Affairs -> To Date -> Submit
 - Consolidated Report -> Income Statement -> To Date -> Submit
 - Float A/C Report -> Float A/C Statement -> From Date -> Submit
 - Suspicious Txn Report (STR) -> From Date -> To Date -> Submit
- 7. Wallet should be Account (All feature)**
 - A/C Opening Report -> Agent Wise A/C Opening Report
 - SureCash Transaction -> Details Transaction Report -> From Date -> Submit
 - Wallet Wise Closing Balance

Regression Testing Report on my fixed bugs

SL No	Summary	Status
1	Change 'Home' Tab to 'Activity Summary'	Fixed
2	Activity Summary Search Order	Fixed
3	Change 'Consolidate Report' to 'Consolidated Reports'	Fixed
4	Add a space like suggested image	Fixed
5	Change 'Float Account' to 'Float Account Report'	Fixed
6	Change 'SureCash A/C' to 'Account Opening Report'	Fixed
7	Change 'A/C Opening Report[By Type]' to 'Type Wise A/C Opening Report'	Fixed
8	Change 'Fees & Charge' to 'Fees & Charges'	Fixed
9	Add spaces before and after '&' sign	Fixed
10	Add space	Fixed
11	Align all text column to Left and values to Right	Fixed
12	All amount should be two character after decimal point	Fixed
13	Select Range' should be 'Select Date' at Activity Summary page	Fixed
14	Replace 'Period: Last Week' to 'This Week'	Fixed
15	Replace [] to colon (:) (All subheading)	Fixed
16	A/C becomes 'Account' at page heading (All features)	Fixed
17	Affairs become 'Daily Affairs' at the heading of affairs page	Fixed
18	Remove BDT from date time (All date time)	Fixed
19	Wallet should be account (All feature)	Fixed
20	Every AC type should be in same format	Not Fixed
21	Application crashed when click on 'VIEW STATEMENT' at Agent Income Report	Fixed
22	Extra '0' can't be set at Time	Fixed
23	Change Date Format	Fixed