

CHITTAGONG UNIVERSITY OF ENGINEERING & TECHNOLOGY



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Course no : CSE- 354

Course title : System Analysis & Design (Sessional)

Date of Submission: 10/03/2014

Group Members:

- Jahir Mohammod (1004040)
- Asif Ibtihaj Ribath (1004041)
- Rabiul Hasan Ronok (1004046)
- MD. Golam Hossain Himu (1004049)
- Emtiaj Hasan (10104050)

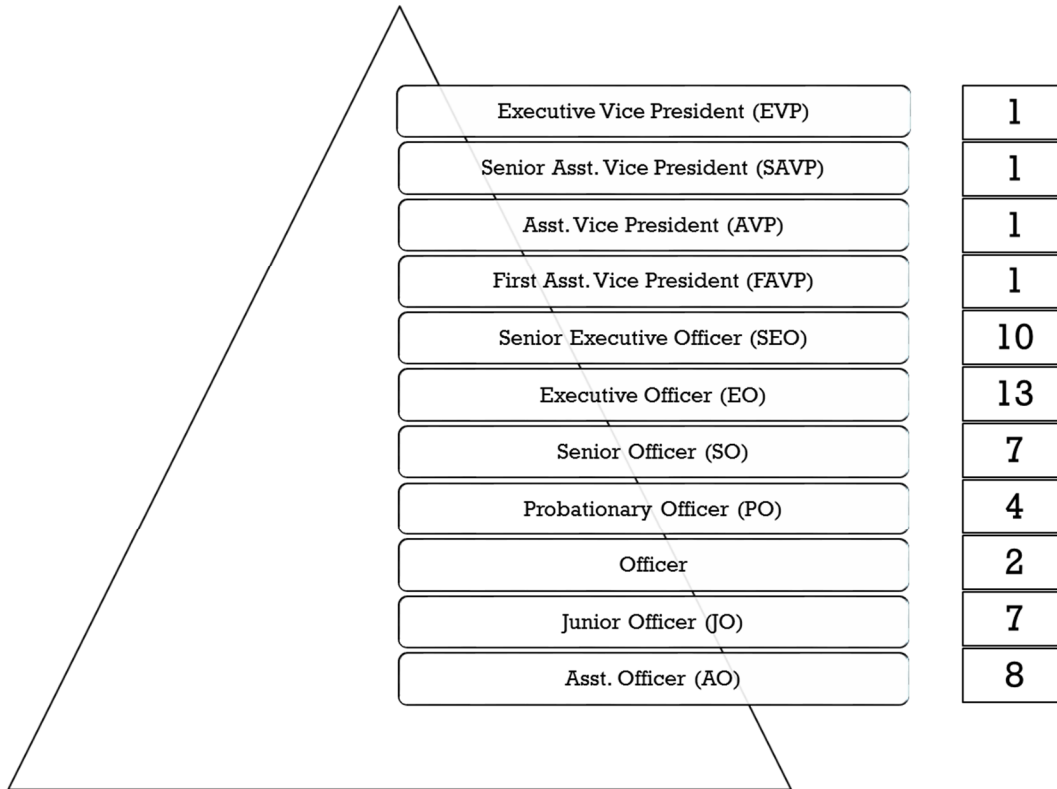
System:

Social Islami Bank, CTG

Objectives

- I. Analyse the system of Social Islamic Bank Limited (SIBL).
- II. Interview with Executive Officer (EO) of CTG. Regional Officer Mr.ShahidUllah.
- III. Discussion about the hierarchy chart of Social Islamic Bank Ltd. CTG. Regional Office.
- IV. Discussion about the key points of interview.
- V. Create a Context Flow Diagram (CFD) of the system.
- VI. Create Data Flow Diagram of some important process of the system.
- VII. Analysing the Use Case Diagram.
- VIII. Briefing the Use Case Narrative.
- IX. Analysing Cost-Benefit of the Existing System.
- X. Calculating the Payback Period.
- XI. Detecting deficiencies in existing system.
- XII. Proposing alternate solutions.

Social Islamic Bank Limited (SIBL) CTG. Regional Office Hierarchy

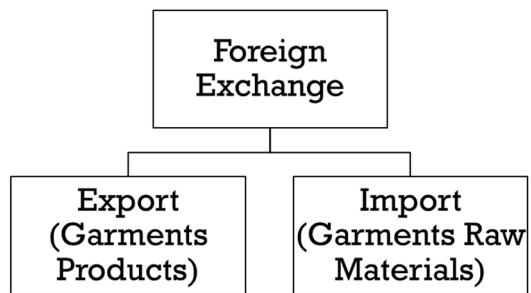


Sections Available in the Branch & their functionality

There are lots of main sections available such as- foreign exchange, general section, cash section, clearing section etc. By their functionality main sections are classified into sub section.

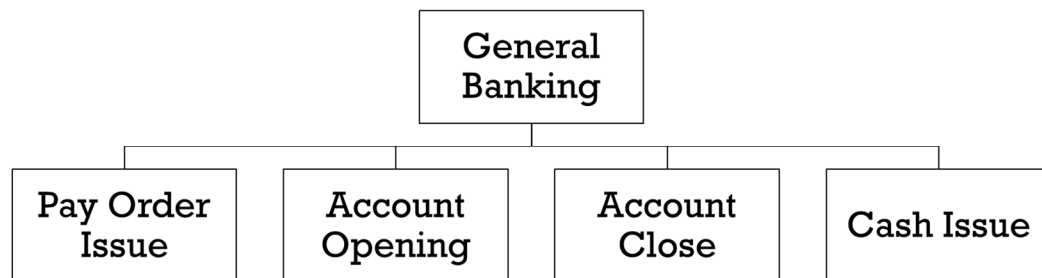
(I) Foreign Exchange:

In foreign exchange section there are two sub sections. Export & Import. Garments products are in export section & Garments raw materials in import sections.



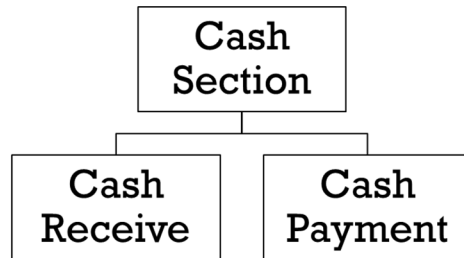
(II) General Banking:

This is one of the main sections available in the bank. In these sections there are number of sub sections. Pay order issue, Account opening, Account close, Cash issue are such of them.



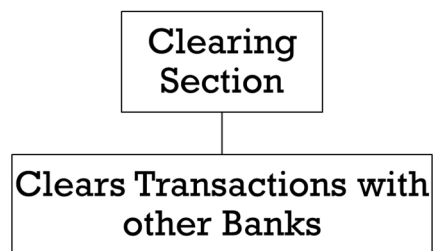
(III) Cash Section:

Cash sections include two sub sections. For receiving cash there is cash section & for payment Cash payment are available.



(IV) Clearing Section:

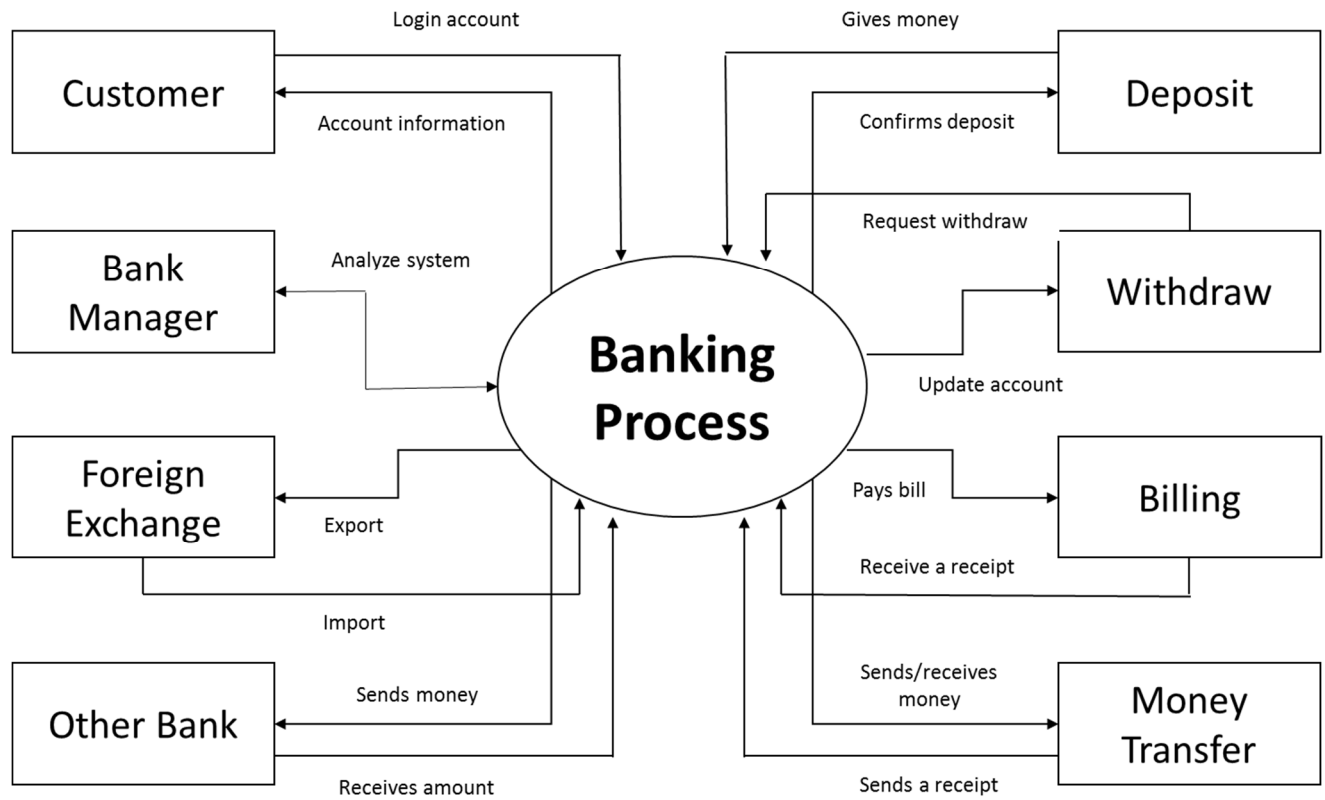
In these section bank transactions with other banks are handled. After a period bank clear the transaction with other bank.



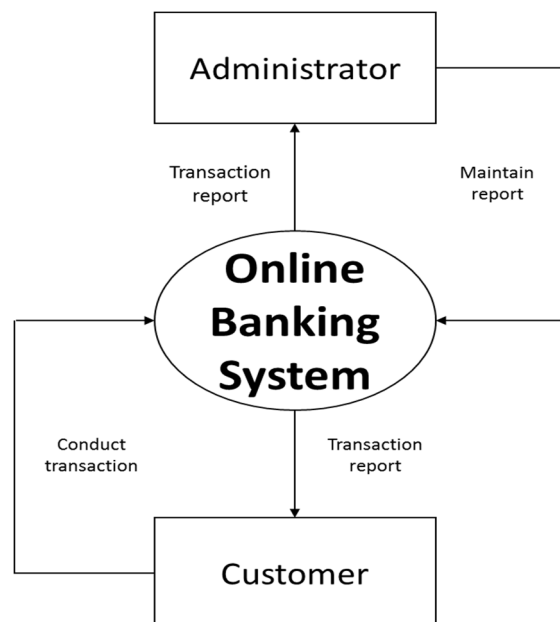
Securities of Data & Personal Information

- ✓ Backup Server
- ✓ Strong Security Software to secure clients privacy
- ✓ Immediate support if any discontinuation occurs

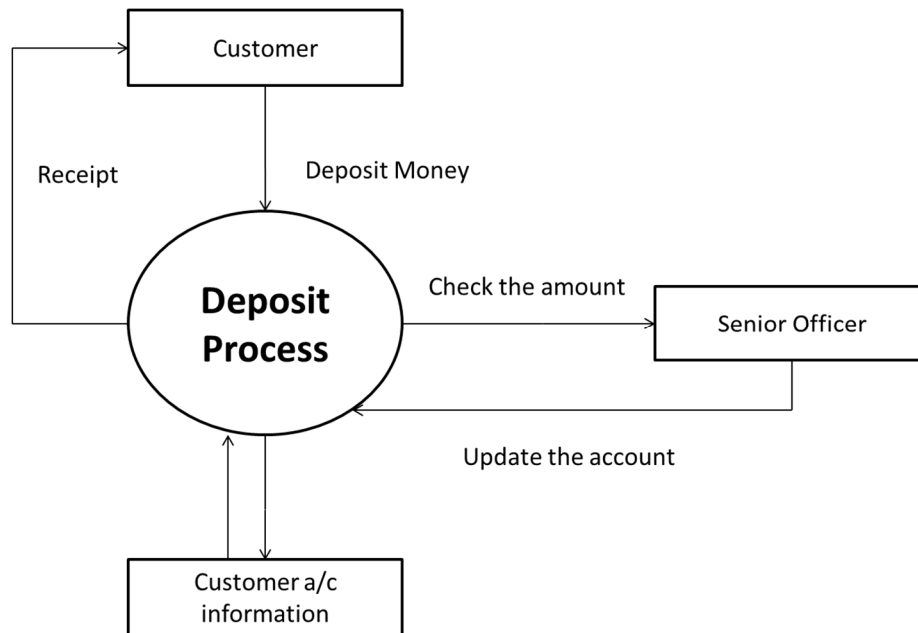
Context Flow Diagram (CFD)



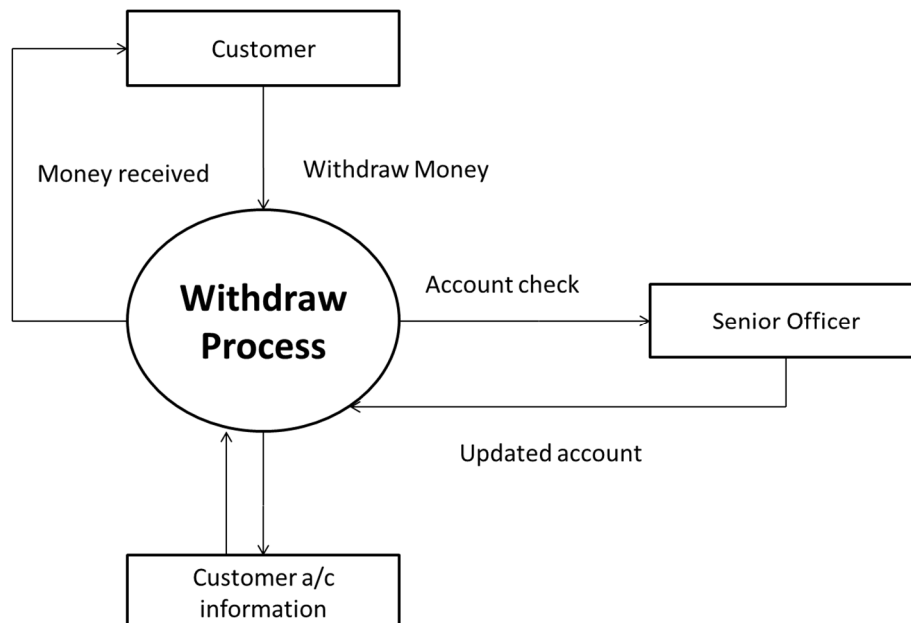
Basic Online Banking System



Data Flow Diagram (DFD) of Deposit Process



Data Flow Diagram (DFD) of Withdraw Process



Use Case Diagram of System

Subsystems

- Cash Subsystems
- Deposit Subsystems
- Foreign Exchange Subsystems
- IT Subsystem
- ATM Subsystems
- Others

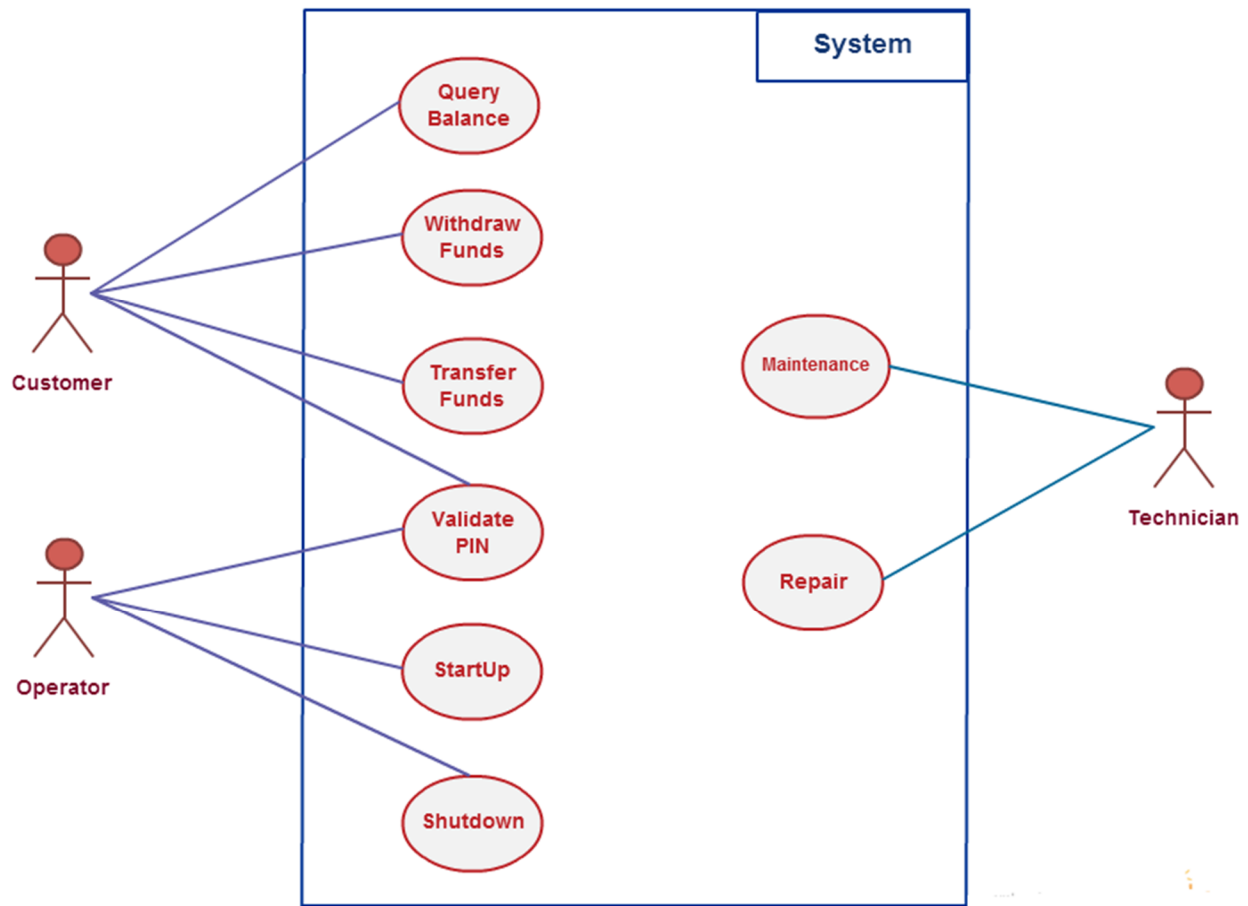
USE Case for Foreign Exchange Subsystem

Use Case Name	Actor
Export	Seller, SEO
Import	Buyer, SEO

USE Case for ATM Subsystem

Use Case Name	Actor
Query Balance	Customer
Withdraw Funds	Customer
Transfer Funds	Customer
Validate PIN	Customer, Operator
Startup	Operator
Shutdown	Operator
Maintenance	Technician
Repair	Technician

USE Case DIAGRAM for ATM Subsystem



[Powered by Creately.com; A online tool for UML diagram]

Use case Narrative for ATM Approval

Name: ATM Approval

Priority: High

Primary Actor: Customer

Secondary Actor: Operator

Precondition: Active Network

Description: Customer Validate their ATM card for further task

Basic Flow of Events for PIN approval

- Insert ATM Card
- Request PIN
- Enter PIN
- Verify PIN
- Display Approval Message

Use case narrative for Withdrawal

Name: Withdraw Amount

Priority: High

Primary Actor: Customer

Precondition: Sufficient Amount

Trigger: Sufficient Amount in Booth

Description: Customer withdraw their money

Basic Flow of Events for Withdrawal

- ATM Approval
- Request Amount
- Enter Amount
- Check Amount
- Verify Amount
- Eject Cash

Feasibility Analysis of System

Economic Feasibility

- We used cost benefit analysis to determine economic feasibility.
- We focused on the ATM system
- We determined the payback period using present value method

Direct Cost

Cost Area	Amount (Tk.)
Installation of ATM Booth	3,00,000
Software	4,00,000
Closed Circuit Camera	5,000
Uninterruptible Power Supply	30,000
Recurring Costs (Space Rent, Guard Salary, Electricity Bill, etc.)	15,000

Tangible Benefits

Benefit Area	Amount (Tk.)
Reduction in Personnel Cost	20,000
ATM Card Service Charge	2,00,000

Intangible Benefits

- Customer Satisfaction
- Encouraging New Account Creation
- Publicity Benefits
- Reduction in Transaction Time

Total Cost & Benefits

- Total Benefit = 2,20,000 Tk. / month
- Recurring Cost = 15,000 Tk. / month
- Net Benefit = 2,05,000 Tk. / month
- Total Cost = 7,35,000 Tk.

Intangible Benefits

We'll calculate Payback period using present value method.

Present value

$$\frac{x}{(1+r/100)^n}$$

Here,

x = net benefit

r = interest rate (assuming 5%)

n = month.

Calculation of Payback Period

Month	Cost (Tk.)	Net Benefit	Present Value Of Benefit	Cumulative Present Value
0	7,35,000	-	-	-
1		2,05,000	1,95,238	1,95,238
2		2,05,000	1,85,941	3,81,179
3		2,05,000	1,77,086	5,58,265
4		2,05,000	1,68,654	7,26,919

Payback Period = 4 months (Approx.)

Feasibility Analysis of System

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Payback Period = 4 months (Approx.)

Deficiencies & Proposal of System

Deficiencies

- Lack of Online Banking System
- Insufficient ATM Booth

PROPOSAL-1

- This proposal addresses the first deficiency
- We proposed an Online Banking System

Requirements

- Server Computer
- Personnel – DBA, DEO, SSO

Direct Cost

Cost Area	Amount (Tk.)
Server Computer	16,00,000
Software	30,00,000
Uninterruptible Power Supply	1,00,000
Recurring Costs (Salary, etc.)	1,50,000

Tangible benefit

Average charge on transaction: 15,00,000

Intangible benefits

- Banking process becomes faster
- Provides users with different services

Total cost & net benefit

- Total Benefit = 15,00,000 Tk. / month
- Recurring Cost = 1,50,000 Tk. / month

- Net Benefit = 13,50,000 Tk. / month
- Total Cost = 47,00,000 Tk.

Calculation of payback period

We'll calculate Payback period using present value method.

$$\text{present value} = \frac{x}{(1+r/100)^n}$$

Here,

x = net benefit

r = interest rate(assuming 5%)

n = month.

Calculation of payback period

Month	Cost(tk)	Net Benefit(tk)	Present value(tk)	Cumulative Present Value(tk)
0	47,00,000	-	-	-
1		13,50,000	12,85,714	12,85,714
2		13,50,000	12,24,489	25,10,203
3		13,50,000	11,66,180	36,76,383
4		13,50,000	11,10,648	47,87,031

Calculation of payback period:

Payback Period = 4 months

PROPOSAL-2

- This proposal addresses the last deficiency
- We propose installation of more ATM Booths

Feasibility analysis:

- Feasibility has already been analyzed
- Payback period is 4 months