LankaBangla Securities

DONE BY TEAM REGISTRATION SQUAD

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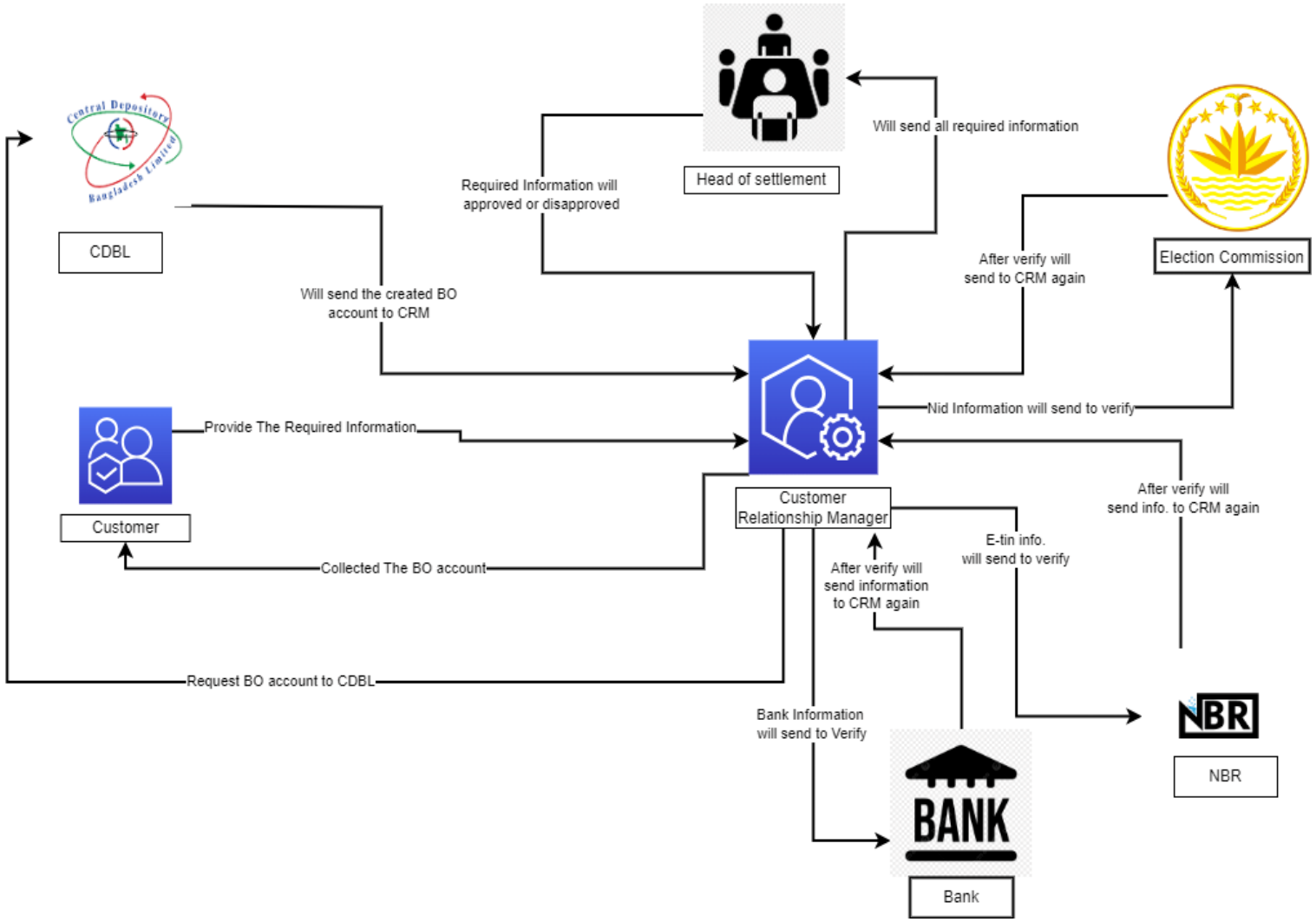
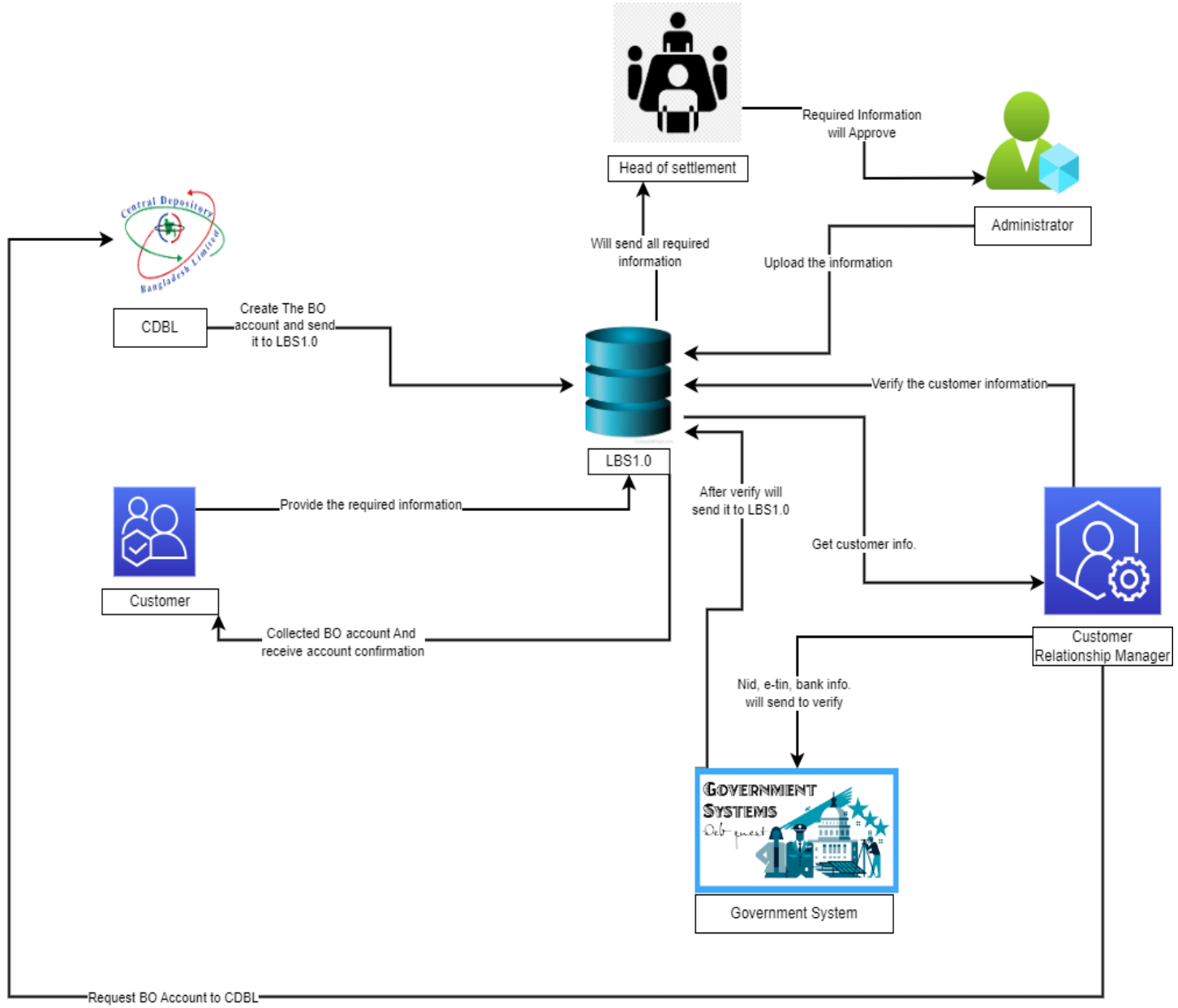
Rich Picture (AS IS)



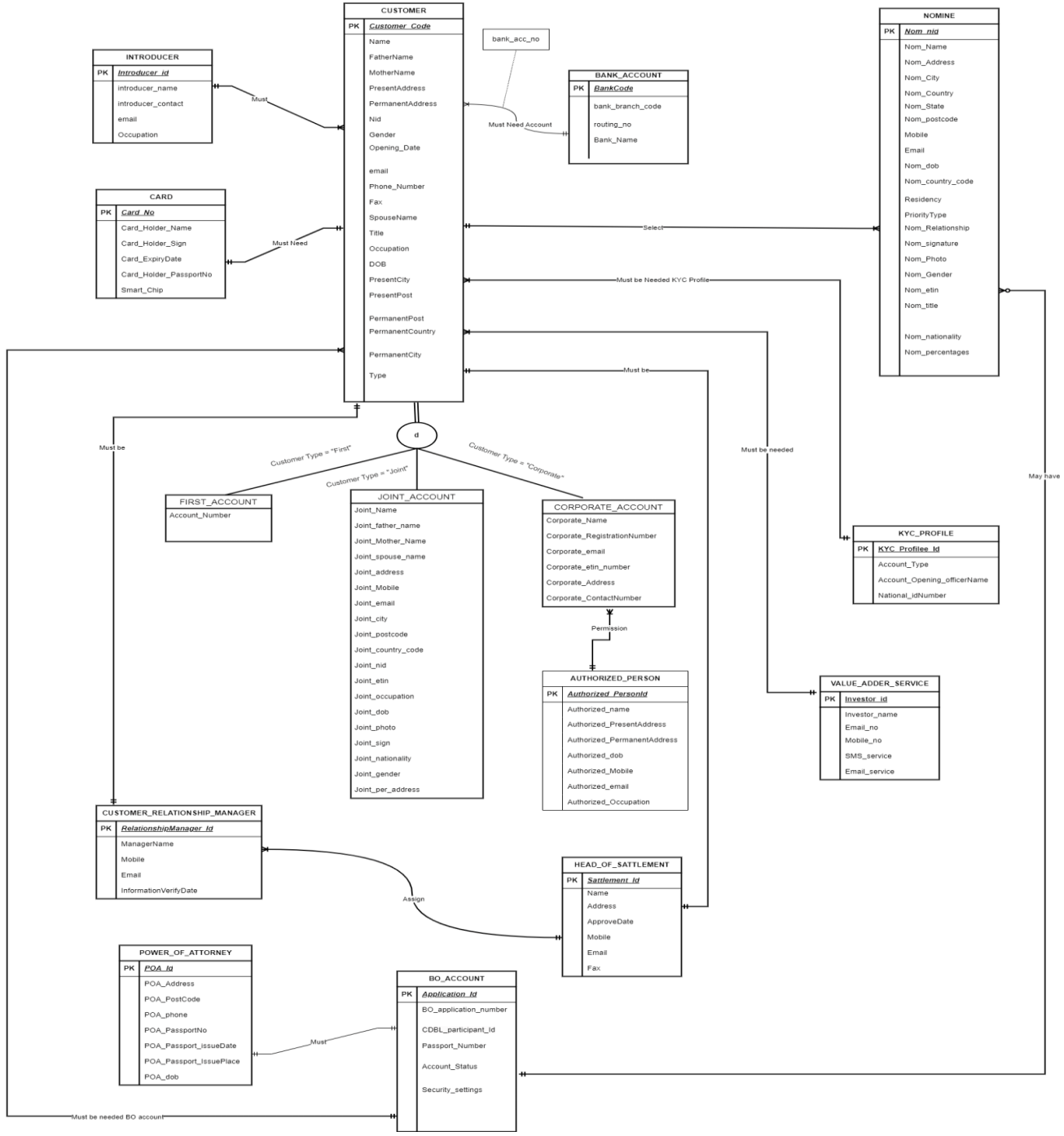
Rich Picture (TO BE)



Existing Problem & Analysis of the Problem

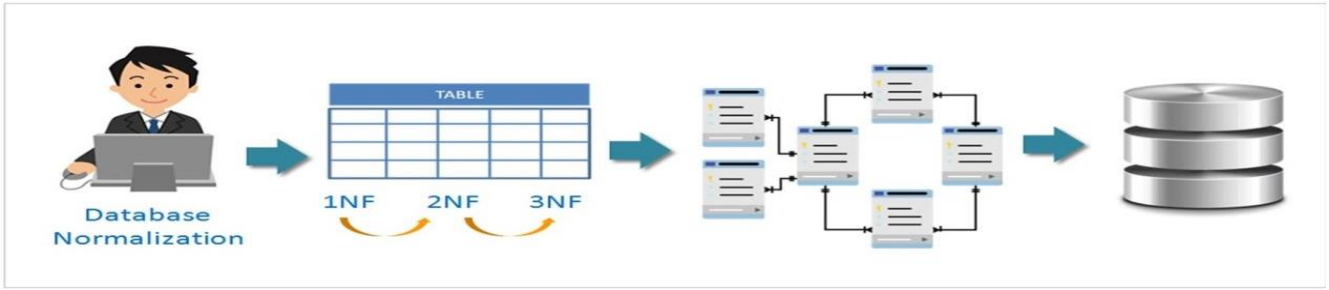
PROCESS NAME	EXISTING SYSTEM PROBLEMS	PROPOSED SOLUTION
Customer Account Opening	Manual data input for client account creation in the present system causes mistakes, inconsistencies, and inefficiencies. Unintegrated departments and systems delay client data verification and increase errors. Customer onboarding without strong identity verification risks data breaches	Integrate digital forms to reduce manual data entry mistakes. Centralised Database: Create a centralised database for real-time data exchange across departments to streamline verification and improve accuracy. Biometric or two-factor authentication for client identification verification.
Trade Execution	Latency and delays in the trade execution system cause lost trading opportunities and poor execution pricing. Traders sometimes lack real-time insight into market circumstances, order status, and execution performance, making decision-making difficult.	Reduce latency using high-speed infrastructure and optimised algorithms. Provide traders with market trends, order status, and execution indicators to improve decision-making. Unified
Data Backup and Security	The current system lacks effective backup methods, putting data at risk from hardware failures, human mistakes, and cyberattacks. Unsecured data leads to breaches and privacy violations.	Implement an automatic backup solution that backs up vital data to secure offsite locations. Protect sensitive data using encryption, access restrictions, and intrusion detection.
Customer Support	Customers get impatient and dissatisfied owing to long wait times for customer service. Customer support agents provide conflicting information, confusing consumers and undermining confidence. Without self-service capabilities.	Integrate AI-powered chatbots to handle common inquiries and provide instant responses, reducing wait times and improving overall efficiency.Develop a comprehensive knowledge base accessible to all agents, ensuring consistent and accurate information.

EERD


CUSTOMER
PK Customer_Code
Name
FatherName
MotherName
PresentAddress
PermanentAddress
Nid
Gender
Opening_Date
email
Phone_Number
Fax
SpouseName
Title
Occupation
DOB
PresentCity
PresentPost
PermanentPost
PermanentCountry
PermanentCity
Type
INTRODUCER
PK Introducer_id
introducer_name
introducer_contact
email
Occupation
Must
bank_acc_no
Must Need Account
BANK_ACCOUNT
PK BankCode
bank_branch_code
routing_no
Bank_Name
NOMINE
PK Nom_nid
Nom_Name
Nom_Address
Nom_City
Nom_Country
Nom_State
Nom_postcode
Mobile
Email
Nom_dob
Nom_country_code
Residency
PriorityType
Nom_Relationship
Nom_signature
Nom_Photo
Nom_Gender
Nom_etin
Nom_title
Nom_nationality
Nom_percentages
CARD
PK Card_No
Card_Holder_Name
Card_Holder_Sign
Card_ExpiryDate
Card_Holder_PassportNo
Smart_Chip
Must Need
Select
Must be Needed KYC Profile
Must be
Must be needed
May have
d
Customer Type = "First"
Customer Type = "Joint"
Customer Type = "Corporate"
FIRST_ACCOUNT
Account_Number
JOINT_ACCOUNT
Joint_Name
Joint_father_name
Joint_Mother_Name
Joint_spouse_name
Joint_address
Joint_Mobile
Joint_email
Joint_city
Joint_postcode
Joint_country_code
Joint_nid
Joint_etin
Joint_occupation
Joint_dob
Joint_photo
Joint_sign
Joint_nationality
Joint_gender
Joint_per_address
CORPORATE_ACCOUNT
Corporate_Name
Corporate_RegistrationNumber
Corporate_email
Corporate_etin_number
Corporate_Address
Corporate_ContactNumber
Permission
AUTHORIZED_PERSON
PK Authorized_PersonId
Authorized_name
Authorized_PresentAddress
Authorized_PermanentAddress
Authorized_dob
Authorized_Mobile
Authorized_email
Authorized_Occupation
KYC_PROFILE
PK KYC_Profilee_Id
Account_Type
Account_Opening_officerName
National_idNumber
VALUE_ADDER_SERVICE
PK Investor_Id
Investor_name
Email_no
Mobile_no
SMS_service
Email_service
CUSTOMER_RELATIONSHIP_MANAGER
PK RelationshipManager_Id
ManagerName
Mobile
Email
InformationVerifyDate
Assign
HEAD_OF_SATTLEMENT
PK Sattlement_Id
Name
Address
ApproveDate
Mobile
Email
Fax
POWER_OF_ATTORNEY
PK POA_Id
POA_Address
POA_PostCode
POA_phone
POA_PassportNo
POA_Passport_issueDate
POA_Passport_IssuePlace
POA_dob
Must
BO_ACCOUNT
PK Application_Id
BO_application_number
CDBL_participant_Id
Passport_Number
Account_Status
Security_settings
Must be needed BO account

Relational Schema

Normalization



1NF

T

a	b	c	d	e	f	g	i	j	k	l	m	n	o	p	q	r
s	t	u	v	w	x	y	z	v1	w5	y1	g1	w1	w2	w3	w4	x1
x2	x100	**a1**	y5	**a2**	b1	c1	d1	e1	f1	e2	h1	i1	j1	z9	k1	l1
m1	n1	o1	p1	r1	s1	t1	**a3**	b2	c3	d2	u8	f2	g2	a4	b3	c3
d3	e3	f3	g3	**u1**	u2	u3	u4	u5	u6	u7	z4	u9	u10	u11	u12	u13
u14	u15	u16	u17	u18	u19	u20	u21	z1	z2	z3	v2	v3	v4	v5	v6	z10
w6	w7	w8	w9	w10	y1	y2	y3	y4	z5	z6	z7	z8	**z11**	z12	z13	z14
h	h2	h3	h4	h5	h6	h7	v7									

Normalization (Continued)

2NF

T1

u1	u2	u3	u4	u5	u6	u7	u8	u9	u10	u11	u12	u13	u14	u14	u15	u16
u17	u18	u19	u20	u21	a	b	c	d	e	f	g	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	w1	w2	w3	w4	x	x1	x2
z	z1	z2	z3	z4	v1	v2	v3	v4	v5	v6	w5	w6	w7	w8	w9	w10
y1	y2	y3	y4	z5	z6	z7	z8	z9	z10	v7						

T2

a1	y5

T3

a2	b1	c1	d1	e1	f1	g1	h1	i1	j1	k1	l1	m1	n1	p1	q	r1
s1	t1															

T4

a3	b2	c3	d2	e2	f2	g2	a4	b3	c3	d3	e3	f3	g3

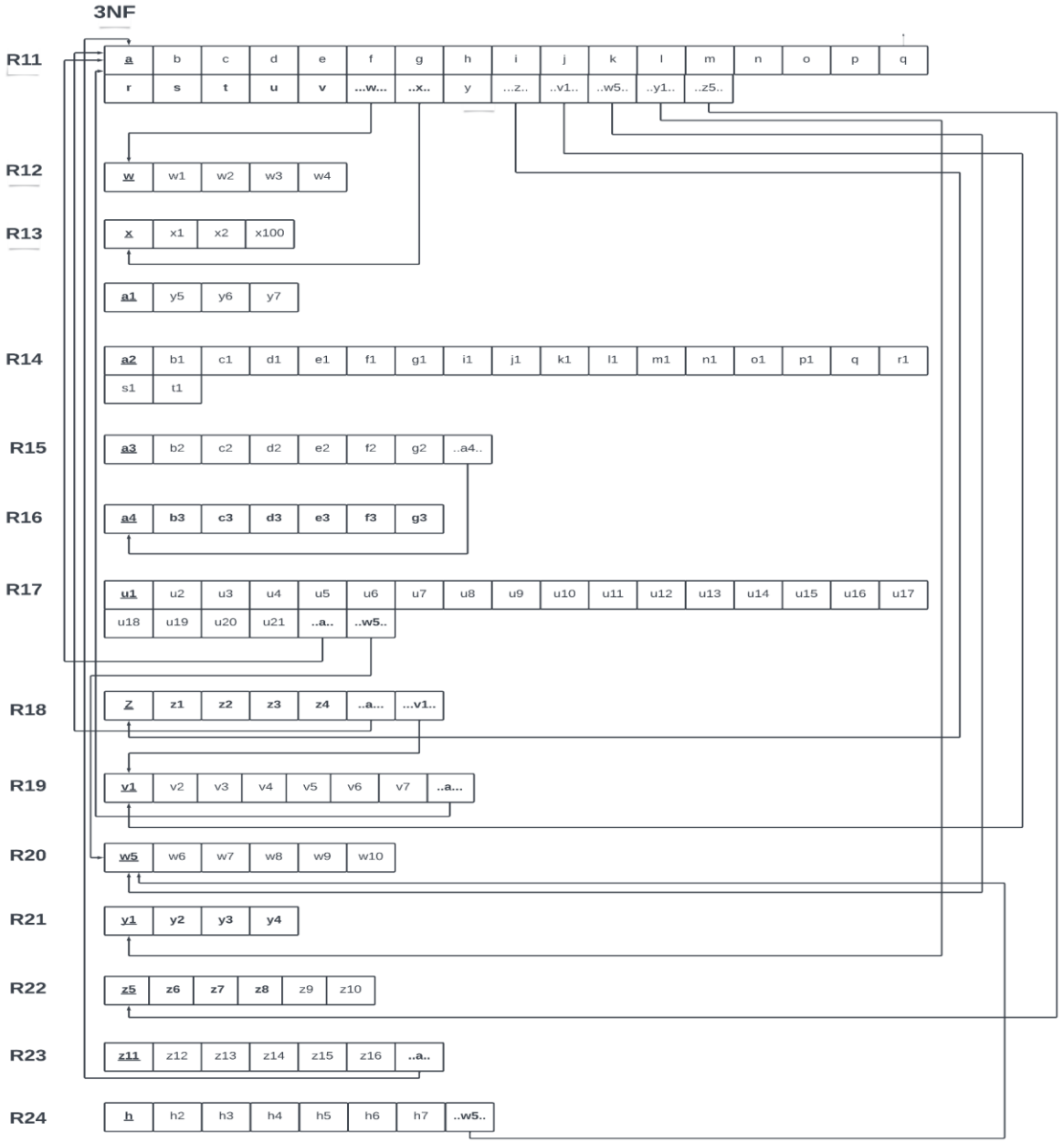
T5

z11	z12	z13	z14	z15	z16	a	b	c	d	e	f	g	i	j	k	l
m	n	o	p	q	r	s	t	u	v	w	w1	w2	w3	w4	x	x1
x2	x100	y	z	z1	z2	z3	z4	v1	v2	v3	v4	v5	v6	v7	w5	w6
w7	w8	w9	w10	y1	y2	y3	y4	z5	z6	z7	z8	z9	z10			

T6

h	h1	h2	h3	h4	h5	h6	w5	w6	w7	w8	w9	w10

Normalization (Continued)



Data Dictionary

Customer_T

Name	Data Type	Size	Remarks
nCustomerCode	INTEGER	11	This is the primary key for the Customer Table. E.g. : 0123456
cName	VARCHAR	50	This is the name of the Customer. E.g : Rahim
cFatherName	VARCHAR	50	This is the name of the customer's father. E.g: Abdullah
cMotherName	VARCHAR	50	This is the name of the customer's mother.E.g: Nasrin
cPresentAddress	VARCHAR	40	This is the Present address of the customer.E.g; badda,dhaka1212
cPermanentAddress	VARCHAR	40	This is the Permanent Address Of the customer.E.g:cantonment,Dhaka
nNid	INTEGER	13	This is the national ID of the customer.E.g.:1234567891012
dOpeningDate	DATE	DD MM YYYY	This is the opening date of the customer.E.g.:26/03/2020
cGender	VARCHAR	8	Gender of the customer. E.g: Male
cEmail	VARCHAR	25	This is the email address of the customer. E.g.:asdf@gmail.com
nPhoneNumber	INTEGER	11	This is the phone number title of the customer. .E.g.:12345678910
cFax	VARCHAR	40	This is the FAX of the customer. E.g: +880
cSpouseName	VARCHAR	50	This is the name of the Spouse. E.g: Hanifa
cTitle	VARCHAR	50	This is the title of the customer. E.g: Customer Information
cOccupation	VARCHAR	10	This is the name of the occupation. E.g: Product Supplier
dDOB	DATE	DD MM YYYY	This is the date of birth of the customer.E.g: 23/05/1993
cPresentCity	VARCHAR	8	This is the name of the present city. E.g: Dhaka
nPresentPost	VARCHAR	4	This is the name of the present post. E,g: Salesman
nPermanentPost	VARCHAR	4	This is the name of the permanent post. E.g: Employer
cPermanentCountry	VARCHAR	15	This is the name of the permanent country. E.g: Bangladesh
cPermanentCity	VARCHAR	15	This is the name of the permanent city. E.g: Barishal
nIntroducerId	INTEGER	15	This is the foreign key from table Introducer. E.g: 208467
nBankCode	INTEGER	20	This is the foreign key from table Bank_Account.E.g: 126784
nbank_accno	INTEGER	20	This is the number of the bank account.E.g.:1234 1568 1529 1258 12
nRelationshipManagerId	INTEGER	15	This is the foreign key from table Customer_Relatlonship_Manager.E.g.:558899
nSattlementId	INTEGER	15	This is the foreign key from table Head_OF_Sattlement.E.g.:154236
nApplicationId	INTEGER	10	This is the foreign key from table BO_Account.E.g.:654321
nKYCProfileid	INTEGER	20	This is the foreign key from table KYC_Profile.E.g.:115566
nInvestorId	INTEGER	20	This is the foreign key from table Value_Addder_Service.E.g.:12345

Data Dictionary (Continued)

Introducer_T

Name	Data Type	Size	Remarks
nIntroducerId	INTEGER	15	This is the primary key for the Introducer table.E.g: 208467
cIntroducername	VARCHAR	50	This is the name of the introducer.E.g:
nIntroducercontact	INTEGER	11	This is the Introducer contact of the introducer.E.g.:12345678910
cEmail	VARCHAR	25	This is the email address of the introducer. E.g.:asdf@gmail.com
cOccupation	VARCHAR	15	This is the Occupation of the introducer.

Bank_Account_T

Name	Data Type	Size	Remarks
nBankCode	INTEGER	20	This is the primary key for the Bank Account table.E.g: 126784
nBankBranchcode	INTEGER	15	This is the Bank Branch code of the bank Account customer.Eg: LBS12345
nRoutingno	INTEGER	13	This is the Routing number of the bank Account customer.E.g: LBSC123456

Data Dictionary (Continued)

First_Account_T

Name	Data Type	Size	Remarks
nFcustomerCode	INTEGER	11	This is the primary key for the First Account table. E.g: 53693
cFirstname	VARCHAR	50	This is the first name of the First Account customer. E.g: Khalil
cFirstcontactNumber	INTEGER	11	This is the First contact Number of Account customers.E.g.12345678910
cFirstAddress	VARCHAR	15	This is the First Address of the First Account customer.E.g; A,B1212

Data Dictionary (Continued)

Joint_Account_T

Name	Data Type	Size	Remarks
nJcustomercode	INTEGER	11	This is the primary key for the Joint Account table. E.g: 135946
cJointname	VARCHAR	50	This is the name of the joint Account customer. E.g: Mostak
cJointfathername	VARCHAR	50	This is the name of the joint Account customer's father. E.g: Abdul
cJointmothername	VARCHAR	50	This is the name of the joint Account customer's mother. E.g: Sabera Khatun
cJointaddress	VARCHAR	40	This is the address of the joint account customer.E.g; A,B1212
cJointemail	VARCHAR	25	This is the email address of the joint account customer.E.g.:asdf@gmail.com
cJointcity	VARCHAR	15	This is the Joint city of the joint account customer.E.g.:"Dhaka".
nJointpostCode	INTEGER	4	This is the postCode of the joint account customer.E.g: 1205
nJointcountrycode	INTEGER	4	This is the country code of the joint account customer.E.g: +880
nJointnid	INTEGER	13	This is the nid number of the joint account customer. E.g: 12345678901234567
nJointetin	INTEGER	15	This is the etin number of the joint account customer. E.g: 123456789012
cJointoccupation	VARCHAR	50	This is the occupation of the joint account customer.E,g: Business Man
dJointdob	DATE	DD MM YYYY	This is the date of birth of the joint account customer.E.g: 23/05/1993
bJointphoto	BLOB	100	This is the photo of the joint account customer.
cJointsign	VARCHAR	20	This is the sign of the joint account customer.E.g: Mostak
cJointnationality	VARCHAR	15	This is the nationality of the joint account customer.E.g: Bangladesh
cJointgender	VARCHAR	8	This is the gender of the joint account customer. E.g: Male
cJointpersentaddress	VARCHAR	15	This is the present address of the joint account customer. E.g: Barishal sadar

Data Dictionary (Continued)

Corporate_Account_T

Name	Data Type	Size	Remarks
nCcustomercode	INTEGER		This is the primary key for the Corporate Account table. E.g: 46492724
nCorporateregistrationNumber	INTEGER		This is the Corporate registration Number of the Corporate Account customer.E.g: ABC123456789
cCorporateemail	VARCHAR	25	This is the email address of the Corporate Account customer.E.g.:asdf@gmail.com
nCorporateetinnumber	INTEGER	50	This is the Corporate etin number of the Corporate Account customer. E.g: BFST56
cCorporateAddress	VARCHAR	15	This is the Corporate Address of the Corporate Account customer.E.g; A,B1212
nCorporateContactNumber	INTEGER	11	This is the Corporate Contact Number of the Corporate Account customer.E.g.:12345678910
cAuthorizedPersonId	VARCHAR	11	This is the foreign key from the table Authorized_Person..E.g.:1123356

Data Dictionary (Continued)

Authorized_Person_T

Name	Data Type	Size	Remarks
nAuthorizedPersonId	VARCHAR	13	This is the primary key for the Authorized Person table.E.g.:1123356
cAuthorizedname	VARCHAR	50	This is the name of the authorized person.E.g.:”Halim”.
cAuthorizedPresentAddress	VARCHAR	15	This is the Present Addressof the authorized person.E.g; A,B1212
dAuthorizeddob	DATE	DD MM YYYY	This is the date of birth of the Authorized Person.E.g.:24/2/1971
nAuthorizedmobile	INTEGER		This is the mobile number of the authorized person.E.g.:12345678910
cAuthorizedemail	VARCHAR	25	This is the email address of the authorized person.E.g.:asdf@gmail.com
cAuthorizedoccupation	VARCHAR		This is the occupation of the authorized person.

Data Dictionary (Continued)

Nominee_T

Name	Data Type	Size	Remarks
nNomnid	INTEGER	13	This is the primary key for the Nominee table.E.g.:5624892
cNomname	VARCHAR	50	This is the name of the nominee.E.g.:"kamal".
cNomaddress	VARCHAR	15	This is the address of the nominee.E.g; A,B1212
cNomcity	VARCHAR		This is the city of the nominee.E.g.:"cumilla"
cNomCountry	VARCHAR		This is the Country of the nominee.E.g.:"bangladesh"
cNomstate	VARCHAR		This is the state of the nominee.E.g.:"Bangla"
nNompostcode	INTEGER		This is the postcode of the nominee.E.g.:26594
nmobile	INTEGER	11	This is the mobile number of the nominee.E.g.:12345678910
cemail	VARCHAR	25	This is the email address of the nominee. E.g.:asdf@gmail.com
dNomdob	DATE		This is the date of birth of the nominee.E.g: 23/05/1993
n Nomcountrycode	INTEGER		This is the country code of the nominee.E.g.:088
cResidency	VARCHAR		This is the Residency Of the nominee. E.g: Resident
cPriorityType	VARCHAR		This is the PriorityType of the nominee. E,g: Platinum
cNomRelationship	VARCHAR		This is the Relationship Of the nominee. E.g: Married
cNo signature	VARCHAR		This is the signature of the nominee.E.g.:"arif"
nNomphoto	BLOB	100	This is the photo of the nominee.
cNo gender	VARCHAR	8	This is the gender of the nominee.E.g.:"male"
nNometin	INTEGER		This is the etin number of the nominee.E.g.:265461
cNomnationality	VARCHAR		This is the nationality of the nominee.E.g.:"Bangladeshi"
cNo percentage	INTEGER		This is the percentage of the nominee.
nCustomerCode	INTEGER		This is the foreign key from the table Customer.E.g. : 0123456
nApplicationId	INTEGER		This is the foreign key from table BO_Account.E.g.:654321

Data Dictionary (Continued)

Head_OF_Sattlement_T

NAME	DATA TYPE	SIZE	REMARKS
nSattlementId	INTEGER	15	This is the primary key for the Head OF Sattlemen table.E.g.:154236
cName	VARCHAR	50	This is the name of the head of settlement.E.g.:”Kamrul”
cAddress	VARCHAR	15	This is the address of the head of settlement .E.g; A,B1212
dApproveDate	DATE		This is the date of approval of the head of settlement. E.g.: 22/3/2020
nMobile	INTEGER	11	This is the mobile number of the head of settlement. E.g.:12345678910
cEmail	VARCHAR	25	This is the email address of the head of settlement. E.g.:asdf@gmail.com
cFax	VARCHAR	25	This is the FAX of the head of settlemen. E.g: +880
nCustomerCode	INTEGER	20	This is the foreign key from the table Customer.E.g. : 0123456

Data Dictionary (Continued)

Customer_Relationship_Manager_T

Name	Data Type	Size	Remarks
nRelationshipManagerId	INTEGER	15	This is the primary key for the Customer Relationship Manager table..E.g.:558899.
cManagerName	VARCHAR	50	This is the name of the C.R.Manager.E.g.:”abdul karim”
nMobile	INTEGER	11	This is the mobile number of the Customer Relationship Manage.E.g.12345678910
cEmail	VARCHAR	25	This is the email address of the Customer Relationship Manage. E.g.:asdf@gmail.com
Information Verification Date	DATE		This is the date of birth of the Information Verification.E.g.:22/03/2020
nCustomerCode	INTEGER	15	This is the foreign key from the table Customer.E.g. : 0123456
nSattlementId	INTEGER	15	This is the foreign key from the table Head_OF_Sattlement.E.g: 154236

Data Dictionary (Continued)

BO_Account_T

Name	Data Type	Size	Remarks
nApplicationId	INTEGER	15	This is the primary key for the BO Account table.E.g.:654321
nBOApplicationNumber	INTEGER	10	This is the BO Application Number of the BO_Account.E.g.:115496
nCDB Participantid	INTEGER	15	This is the CDBLParticipantid of the BO_Account.E.g.:4486259
nPassportNumber	INTEGER	8	This is the passport number of the BO_Account.E.g.:25761983
cAccountStatus	TEXT	100	This is the Account Status of the BO_Account. E.g:
cSecuritySettings	VARCHAR	20	This is the Security Settings of the BO_Account.

Data Dictionary (Continued)

KYC_Profile_T

Name	Data Type	Size	Remarks
KYC Profile id	INTEGER	20	This is the primary key for the KYC_Profile table.E.g.:115566
cAccountType	VARCHAR	15	This is the Account Type of the KYC Profile.E.g.:”Premium”
cAccountOpeningOfficerName	VARCHAR	50	This is the Account Opening Officer Name of the KYC Profile.E.g.:”Kuddus”
nNationalIdNumber	INTEGER	13	This is the National Id Number of the KYC ProfileE.g.:1864925731648

Data Dictionary (Continued)

Value_Addder_Service_T

Name	Data Type	Size	Remarks
nInvestorId	INTEGER	20	This is the primary key for the Value_Addder_Service table.E.g.:12345
cInvestornam e	VARCHAR	50	This is the name of the value adder.E.g.:”yusuf”
cEmail	VARCHAR	25	This is the email address of the value adder. E.g.:asdf@gmail.com
nMobileno	INTEGER	11	This is the mobile number of the value adder. E.g.:12345678910
cSMSService	VARCHAR	50	This is the SMS Service of the value adder.
cEmailService	VARCHAR	50	This is the Email Service of the value adder. E.g.:

Data Dictionary (Continued)

Card_T

Name	Data Type	Size	Remarks
Card_No	INTEGER	20	This is the primary key for the Card table. E.g.:456239
nCard_Holder_Name	VARCHAR	50	This is the name of the Card_Holder.E.g.:"Jalil"
cCard_Holder_Sign	VARCHAR	25	This is Sign of the Card_Holder E.g.:Jalil
nCard_Expiry_Date	DATETIME		This is the Card_Expiry_Date of Card_Holder E.g.:23/7/2021
cCard_Holder_PassportNo	INTEGER	20	This is the PassportNo of the Card_Holder E.g: 74244728
nSmartChip	INETEGER	50	This is the SmartChip of the Card_Holder E.g.: 1234-5678-9012-3456
nCustomer_Code	INTEGER	50	This is the foreign key of the Customer table. E.g: : 0123456

Data Dictionary (Continued)

Power_Of_Attorney_T

Name	Data Type	Size	Remarks
POA_Id	INTEGER	20	This is the primary key for the Power_Of_Attorney Table. E.g.:73483
nPOA_Address	VARCHAR	50	This is the Address of the Power Of attorney, E.g.:"Banani, Rd. no. 6."
cPOA_PostCode	VARCHAR	25	This is the post code of the power of attorney. E.g.: 1213
nPOA_Phone	VARCHAR	35	This is the phone number of the Power of attorney E.g.:019635223**
cPOA_Passport_No	INTEGER	20	This is the passport number of the Power Of attorney E.g: 93224727
nPOA_passport_IssueDate	DATETIME	50	This is issue date of the Power of attorney Passport E.g.: 8-5-2022
nPOA_Passport_IssuePlace	INTEGER	50	This is the issue place of the Power of attorney passport. E.g: : Mohakhali
cPOA_dob	DATETIME		This is the birthdate of the Power of attorney E.g: 01-05-1985
nApplication_Id	INTEGER		This is the Application ID of the BO account table. E.g: :654321

THANK YOU