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KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
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المملكة العربية السعودية
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كلية علوم الحاسب والمعلومات

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Software Engineering (CS- 310)
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Project-Phase No: 02
MADA verification
(DD)

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Abstract

This DD document shows how our project will be linked to each other systems by defining each diagram of the systems. It will be clearly enough and easily to understand.

1 Introduction

"MADA Verifications" is software system products will be a mobile application of mobile Banking verification operations, which helps people to verify their bank operations easier and faster currently the software can run on the Android platform, in the future will be able also on IOS platform and another OS.

The main goal of our project is to make bank operations easier for the user, also to raise the level of the operation's privacy by using face ID or fingerprint to verify the operation. To achieve this goal, we need to make sure that our project will work in secure systems and that what we will take care of in this phase and during the implementation.

After we submitted the project proposal, our team has completed the SRS document, which includes the requirement of the project. In this phase, we will describe the software using serval designs such as high and medium level, class diagram, use case etc.

2 Design

2.1 High-level and medium-level design

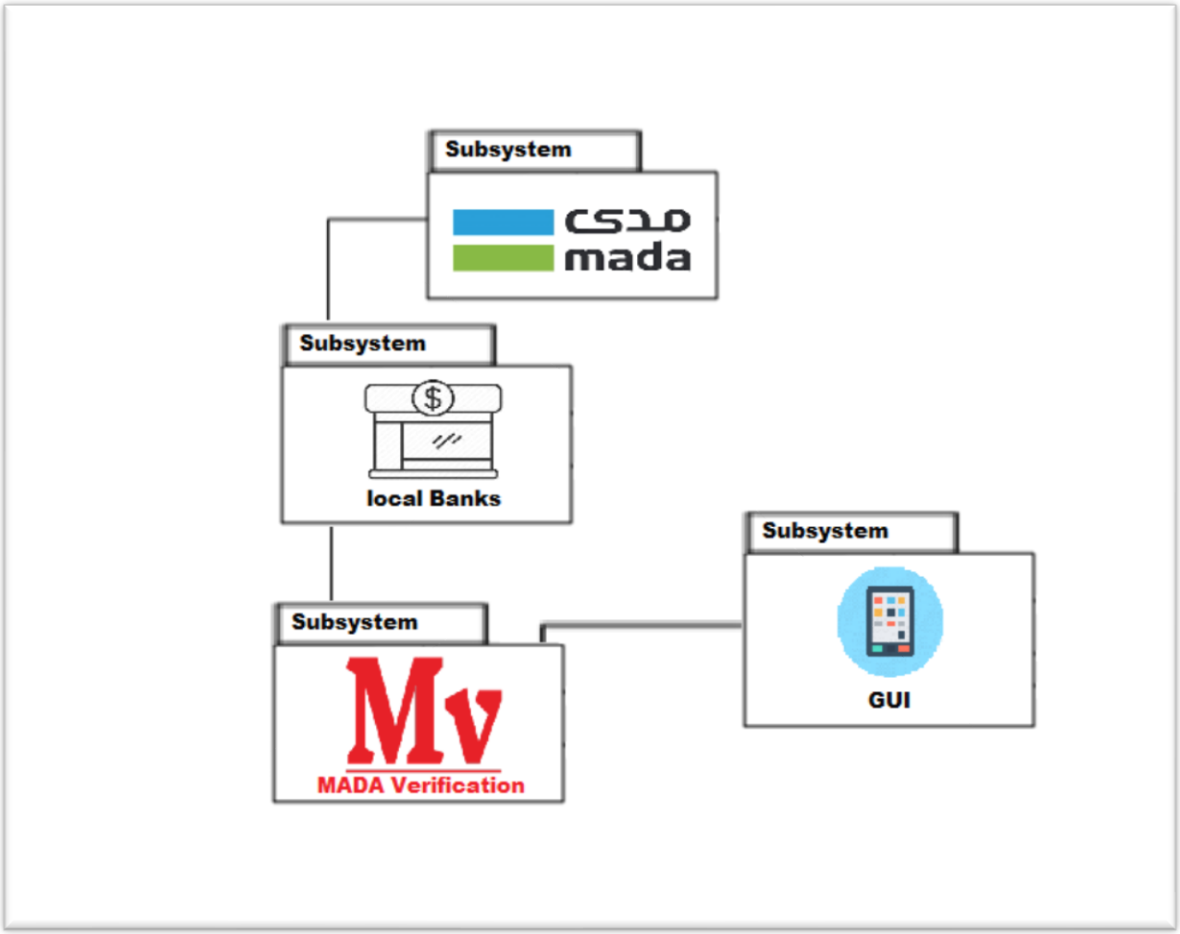

Figure 1: Subsystems Diagram

Description of subsystems are as follows:

MADA

The MADA subsystem Is the head system of national banks that contains all bank operations. This subsystem linked with all local banks.

Local banks

The Local banks subsystems is any bank are under MADA subsystem such as, Alrajhi, Alanima, Alahli, etc. which is linked with MV subsystem. This subsystem will be the mediator between MADA Verification and MADA subsystem.

MADA Verification

The MADA Verification is subsystem contains classes that process the main functionality of the software.

GUI (Graphical User Interface)

The GUI is subsystem contains classes that represent interface of the application.

2.2 Class Diagram

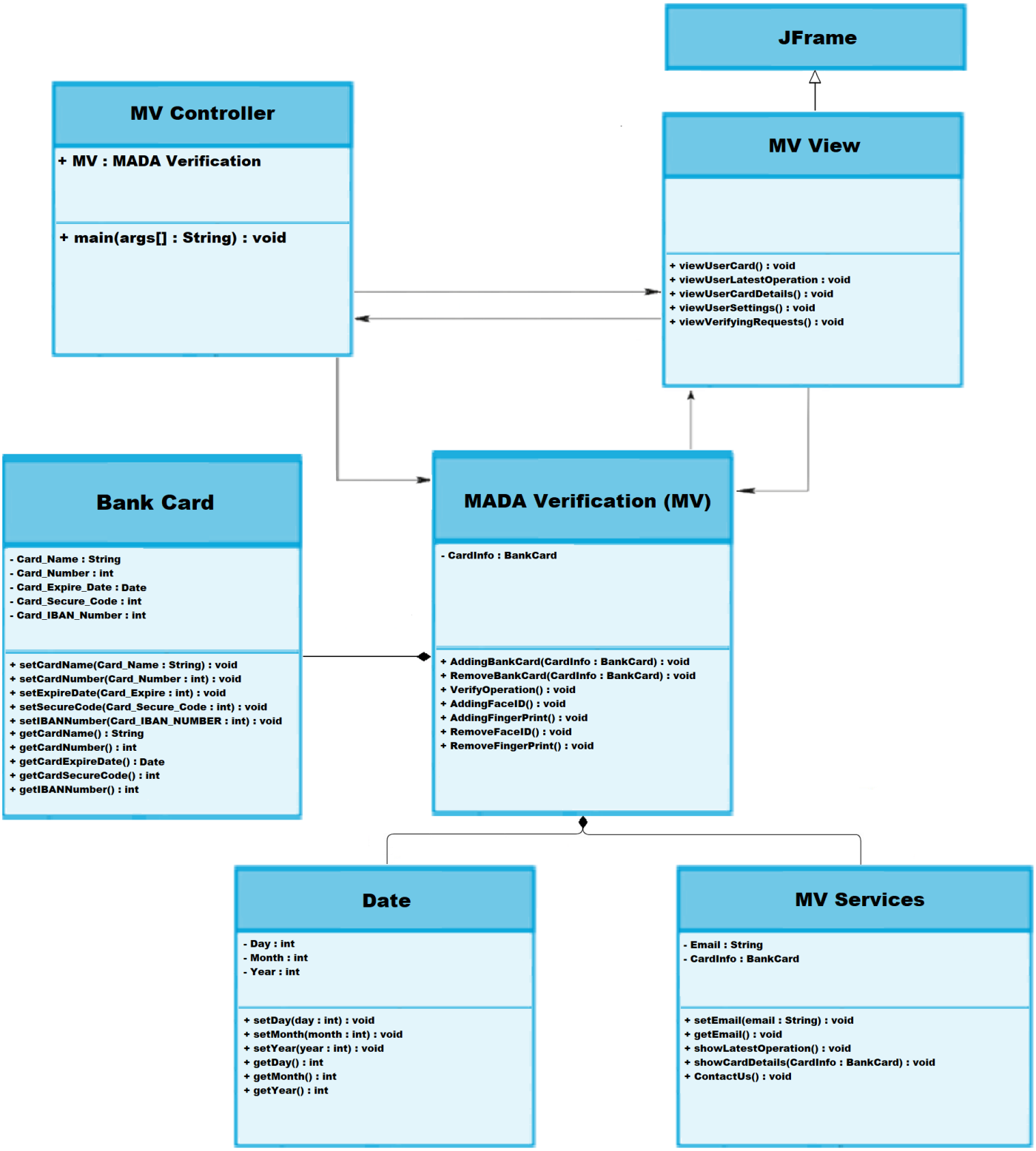

Figure 2: Class Diagram

2.3 Classes Methods Description

2.3.1 MV Controller Class:

The MV Controller Class is the class who is responsible to run all the tasks as a driver.

Class	Controller
Method	Main
Visibility	Public
Return type	Void
Parameters, types	Card information: (String array)
Description	Main Method (Driver)

2.3.2 MADA Verification Class:

The MADA Verification Class is the class who is responsible for obtaining and arranging data from the database and using it on the program.

Class	MADA verification
Method	AddingBankCard
Visibility	Public
Return type	Void
Parameters, types	CardInfo : BankCard
Description	This method adds new Bank Card in MV App.

Class	MADA verification
Method	RemoveBankCard
Visibility	Public
Return type	Void
Parameters, types	CardInfo : BankCard
Description	This method removes Bank Card in MV App.

Class	MADA verification
Method	AddingFaceID
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method adds face id for the user.

Class	MADA verification
Method	VerifyOperation
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method Verify a Bank operations.

Class	MADA verification
Method	AddingFingerPrint
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method adds fingerprint for the user.

Class	MADA verification
Method	RemoveFaceID
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method removes user FaceID

Class	MADA verification
Method	RemoveFingerPrint
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method removes user fingerprint.

2.3.3 MV View Class:

The MV View Class is the class who will displays the user actions.

Class	MV View
Method	viewUserCard
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method will view user card in the user interface

Class	MV View
Method	viewUserLatestOperation
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method will view user latest operation in the user interface

Class	MV View
Method	ViewVerifyingRequests
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method will view the verifying requests in the user interface

Class	MV View
Method	ViewUserCardDetails
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method will view user card details in the user interface

Class	MV View
Method	ViewUserSettings
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method will view the settings in the user interface

2.3.4 Bank Card Class:

The BankCard Class is the class who is responsible for create a new Card for user.

Class	Bank Card
Method	setCardName
Visibility	Public
Return type	Void
Parameters, types	cardName: String
Description	This method gives access to set card name.

Class	Bank Card
Method	setCardNumber
Visibility	Public
Return type	Void
Parameters, types	cardNumber: int
Description	This method gives access to set card number.

Class	Bank Card
Method	setCardExpireDate
Visibility	Public
Return type	Void
Parameters, types	cardExpire: int
Description	This method gives access to set card Expire date.

Class	Bank Card
Method	setSecureCode
Visibility	Public
Return type	Void
Parameters, types	cardSecure: int
Description	This method gives access to set card secure code.

Class	Bank Card
Method	setIBANNumber
Visibility	Public
Return type	Void
Parameters, types	cardIBAN: int
Description	This method gives access to set card IBAN number.

Class	Bank Card
Method	getCardName
Visibility	Public
Return type	String
Parameters, types	None
Description	This method will return the card name.

Class	Bank Card
Method	getCardNumber
Visibility	Public
Return type	int
Parameters, types	None
Description	This method will return the card number.

Class	Bank Card
Method	getExpireDate
Visibility	Public
Return type	Date
Parameters, types	None
Description	This method will return the card Expiring date.

Class	Bank Card
Method	getSecureCode
Visibility	Public
Return type	int
Parameters, types	None
Description	This method will return the card secure number.

Class	Bank Card
Method	getIBANNumber
Visibility	Public
Return type	int
Parameters, types	None
Description	This method will return the IBAN number.

2.3.5 Date Class:

The Date Class is the class who is hold date settings.

Class	Date
Method	setDay
Visibility	Public
Return type	Void
Parameters, types	day: int
Description	This method gives access to set day on date.

Class	Date
Method	setMonth
Visibility	Public
Return type	Void
Parameters, types	month: int
Description	This method gives access to set month on date.

Class	Date
Method	setYear
Visibility	Public
Return type	Void
Parameters, types	year: int
Description	This method gives access to set year on date.

Class	Date
Method	getDay
Visibility	Public
Return type	int
Parameters, types	None
Description	This method gives access to get day on date.

Class	Date
Method	getMonth
Visibility	Public
Return type	int
Parameters, types	None
Description	This method give access to get month on date.

Class	Date
Method	getYear
Visibility	Public
Return type	int
Parameters, types	None
Description	This method give access to get year on date.

2.3.6 MV Services Class:

The MV Services Class is the class who is providing application services.

Class	MV Services
Method	setEmail
Visibility	Public
Return type	Void
Parameters, types	email: String
Description	This method give access to set email.

Class	MV Services
Method	getEmail
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method give access to get email.

Class	MV Services
Method	showLatestOperation
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method shows latest bank card operation.

Class	MV Services
Method	showCardDetails
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method shows bank card details.

Class	MV Services
Method	ContactUs
Visibility	Public
Return type	Void
Parameters, types	None
Description	This method helps user to contact with us.

2.4 Use Case Diagram

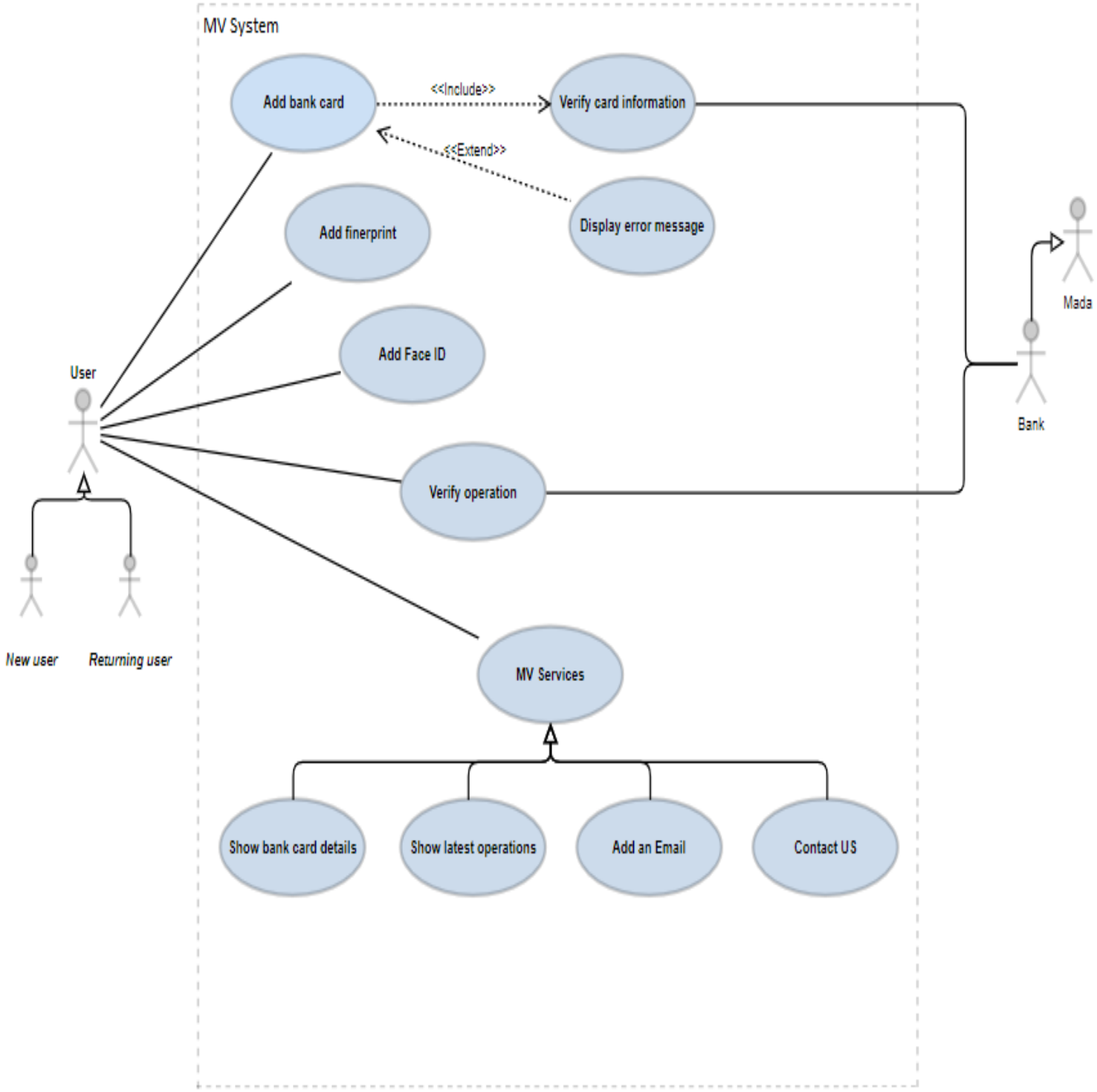

Figure 3: Use Case Diagram

2.5 Sequence Diagram

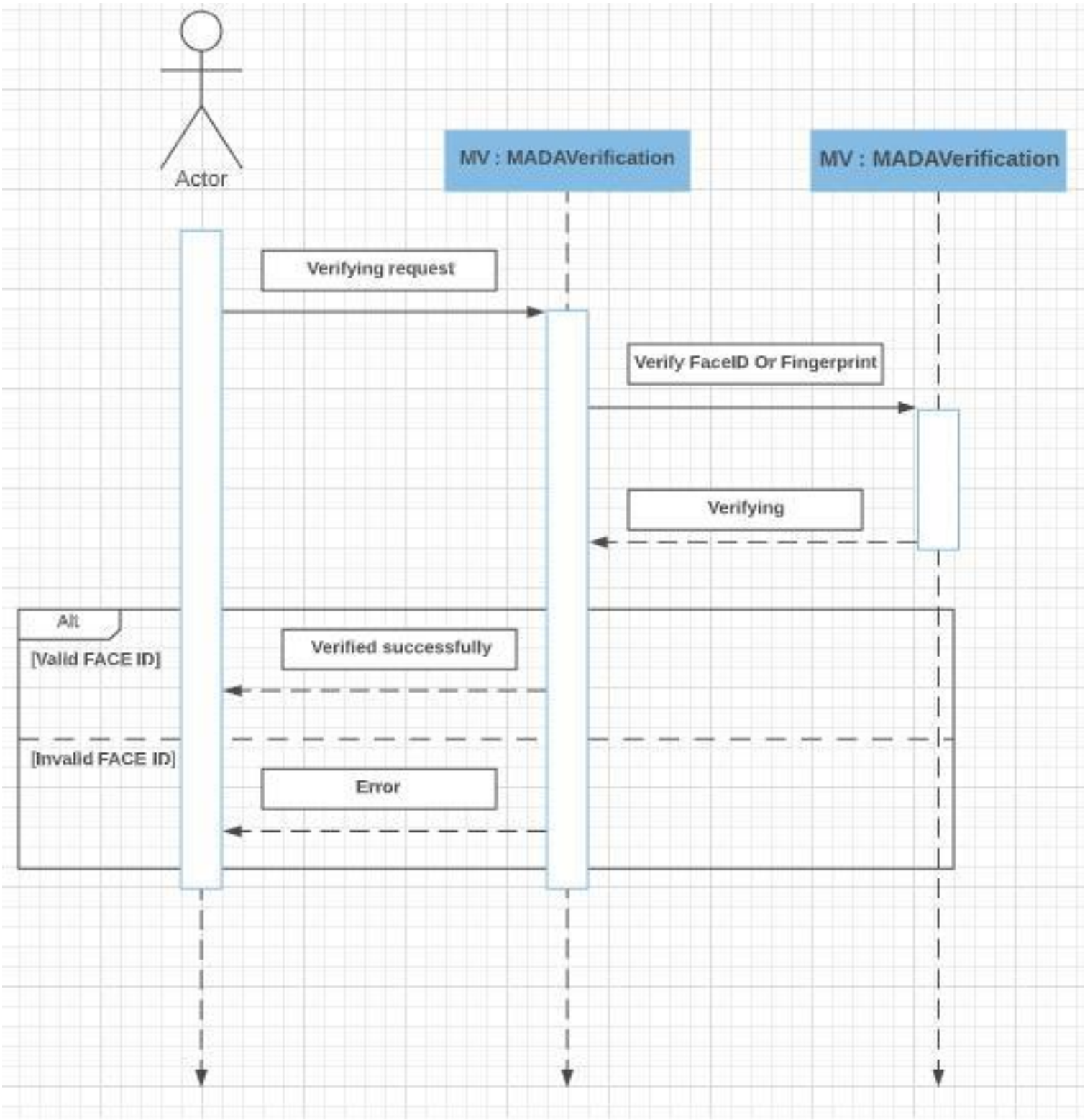

Figure 4: Sequence Diagram

2.6 User Interface design

This section contains snapshots of a prototype for the MV user interface.

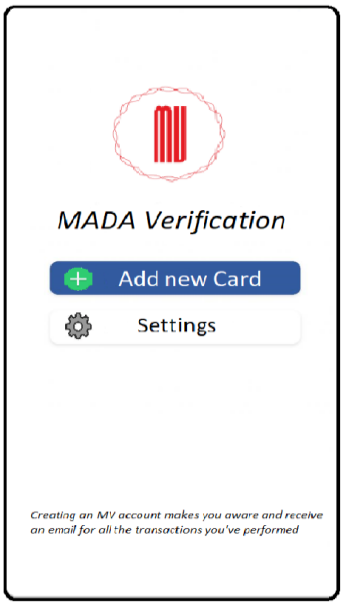

Figure 5: *A snapshot of user interface HomePage allow user to choose between Adding new Card or Settings.*

Figure 6: *A snapshot of user interface for adding a new card to the MV application.*

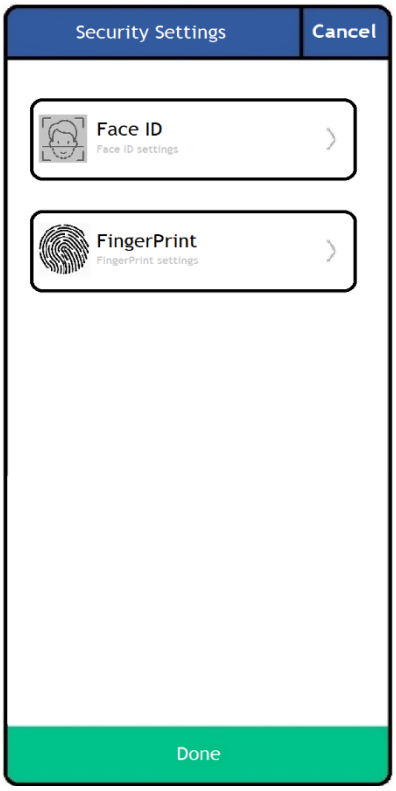

Figure 7: *A snapshot of user interface for Security settings allow user to choose Verify method.*

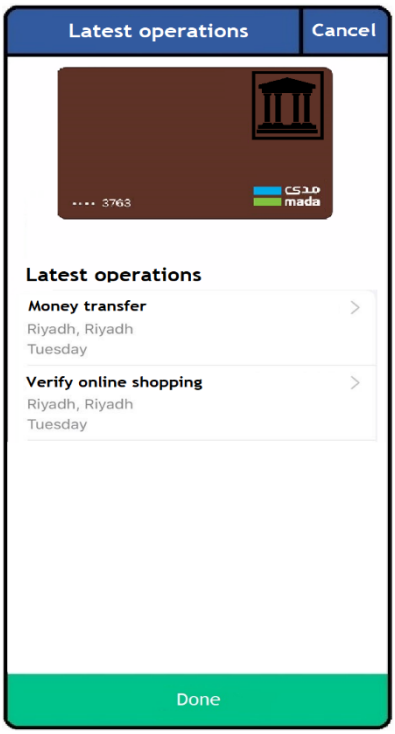

Figure 8: *A snapshot of user interface for Latest Operations allow user to see his latest operations.*

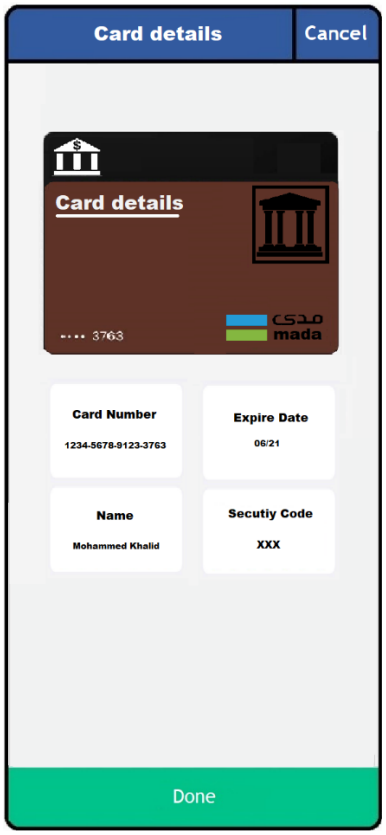

Figure 9: *A snapshot of user interface for Card details allow user to see his Card details.*

3 Conclusion:

At the end of this DD document, we covered a complete designed description of MV System starting up with High-level and Medium-level diagrams, UML diagram, Use Case and ending of sequence diagram. also, we gave a prototype of user interfaces with descriptions.