

GUARDWHEELS : INSURANCE RENEWAL SYSTEM

Presented By: Ihsanuddin Adli

UMT | 2024

ABOUT ME



Name : Muhammad Ihsanuddin Bin Adli

Matrix number : S63736

From : Terengganu

Course : Software Engineering

**Supervisor : Ts. Dr. Sharifah Mashita Binti
Syed Mohamad**

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BACKGROUND

- Project Name : GuardWheels : Insurance Renewal System
- Purpose: Address the changing landscape of the insurance market by enhancing efficiency, transparency, and customer satisfaction.
- Focus Areas:
 - Centralize and streamline insurance renewal procedures.
 - Provide accurate management dashboards, advanced analytics, and user management capabilities for better decision-making and oversight.
 - Prioritize customer experience over internal profit.
- Features:
 - Streamlined renewal process.
 - Convenient user registration.
 - Automated policy issuance.
 - Timely notifications.



BACKGROUND

- Strategic Objectives:
 - Improve operational effectiveness.
 - Adopt a customer-centric strategy.
 - Provide tools and insights for insurance providers to remain competitive.
- Key Contributor: Mr. Adli Bin Yong, the stakeholder, providing crucial knowledge and information.



PROBLEM STATEMENT

Financial Data Management

- Challenge: Ineffective recording of financial data.
- Impact: Operational inefficiencies and delays in decision-making.

Paper-Based Operations

- Challenge: Over-reliance on paper-based processes.
- Impact: Wasted resources, higher operational costs, and concerns about environmental sustainability.

Renewal Process Inconvenience

- Challenge: Customers need to physically visit insurance shops for policy renewals.
- Impact: Increased time and transportation expenses.

PROBLEM SOLUTION

Real-Time Financial Data Access

Provides managers with real-time access to accurate financial data for improved efficiency and decision-making.

Digital Insurance Renewals

Enables customers to renew insurance digitally, reducing the need for physical visits.

Reduced Paper Dependency

Reduces reliance on paper-based processes, leading to resource savings and environmental care.

- 1
- 2
- 3

- To study a comprehensive review of specifications to create a web-based insurance renewal system that automates insurance policy renewals.**
- To design a user-friendly, comprehensive, and fully functional insurance renewal system for the web that complies with the needs of decision analysis.**
- To develop a functional insurance renewal system that meets the diverse needs of insurance companies and customers.**

SCOPE

Insurance Renewal

Reporting & Analytics

**Customer Data
Management**

Feedback & Handling

Out Of Scope

**Third Party Payment
Processing**

SCOPE

Location or area of the user :

All over peninsula Malaysia

Language of the system :

English

Users of the system :

- Customer**
- Manager**
- Staff**

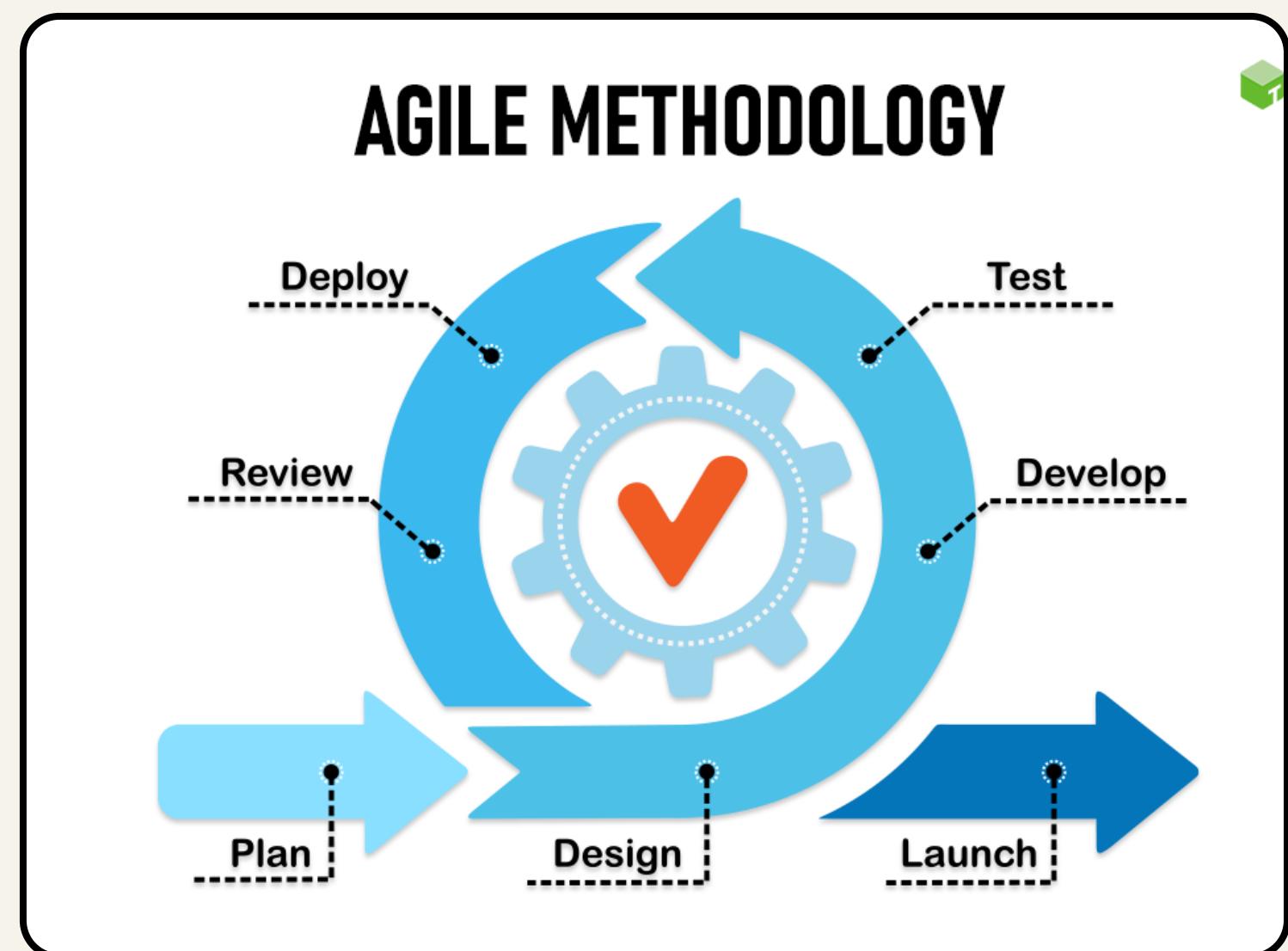
LITERATURE REVIEW

Function / Module	Bjak	Berjaya Sopmo	Etiqa
User registration	No	No	Yes
Insurance management	Yes	Yes	Yes
Payment management	No	Yes	No
Feedback & Reporting	Yes	Yes	Yes
User friendly theme	Yes	Yes	Yes

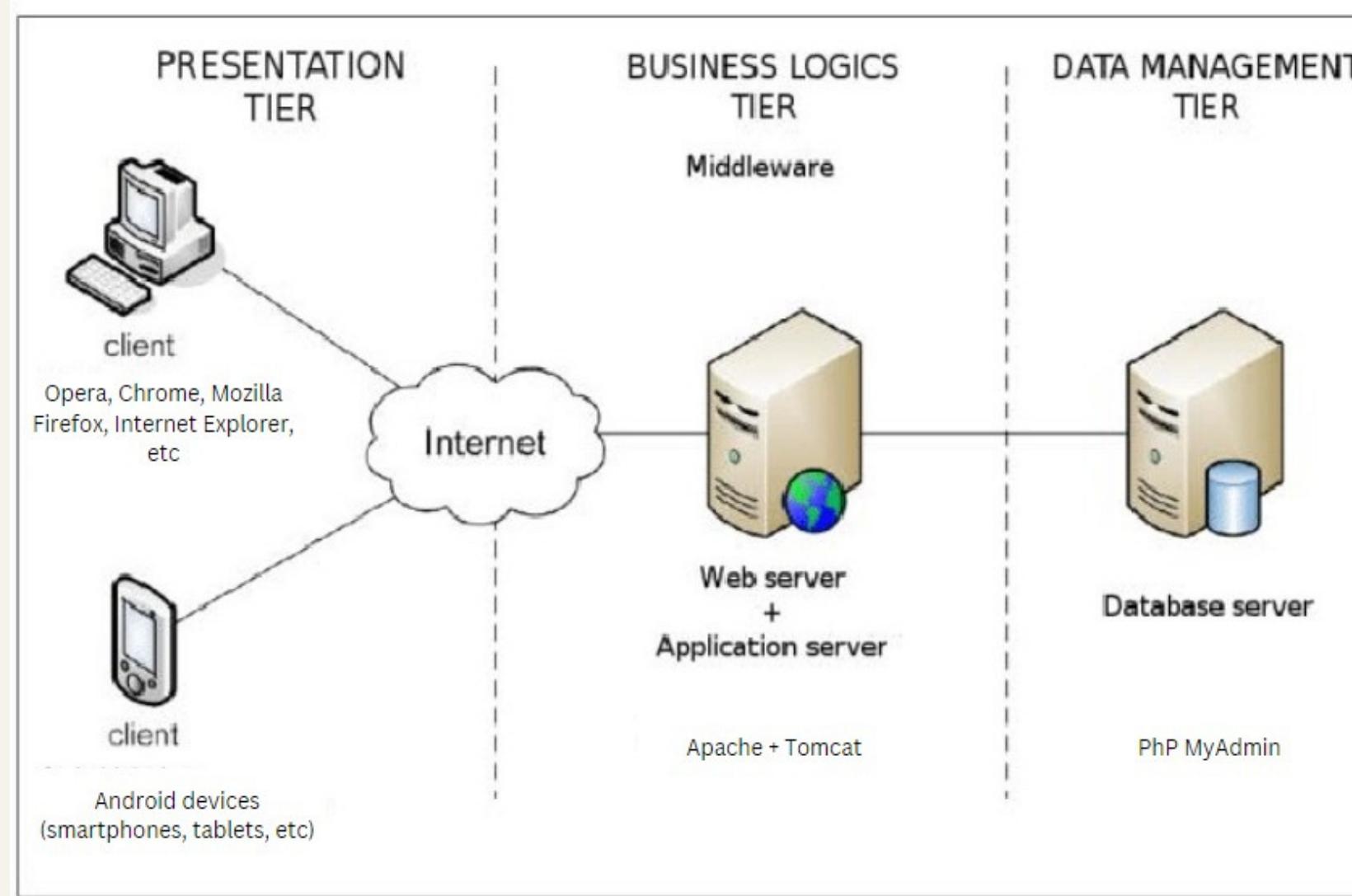
METHODOLOGY

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GuardWheels: The Insurance Renewal System (IRS) will be developed using Agile methodology, which consists of several critical phases necessary for the smooth operation and successful delivery of the desired output to stakeholders. Agile methodology comprises seven key phases, each of which plays a pivotal role in the development process.



SOFTWARE ARCHITECTURE



Presentation Tier :

Represents the user interface layer where users interact with GuardWheels: Insurance Renewal System (IRS).

Business Logics Tier :

Front-end layer handling business rules, workflows, and logic for IRS operations.

Data Management Tier :

Fundamental layer managing data organization, retrieval, and storage for IRS.

PROJECT MANAGEMENT PLAN

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Milestone No.	Description	Start Date	End Date
1	Project title approval	8 October 2023	19 October 2023
2	Submission of SPMP	20 October 2023	4 November 2023
3	Submission of SRS	30 October 2023	22 November 2023
4	Submission of SDD	5 November 2023	28 November 2023
5	Project prototype	12 January 2024	15 January 2024
6	Submission of thesis	25 January 2024	5 July 2024

FUNCTIONAL REQUIREMENT

Customer

- Account Creation
- Login Functionality
- Profile Management
- Quotation Management
- Feedback Handling
- Payment Management

Staff

- Staff Login
- Profile Management
- Quotation Handling

Manager

- Manager Login
- Profile Management
- Report Generation
- Feedback Management
- Payment Approval
- Notification Management

Admin

- Account Creation
- Admin Login
- Account Management
- Report Generation

NON FUNCTIONAL REQUIREMENT

Performance

Security

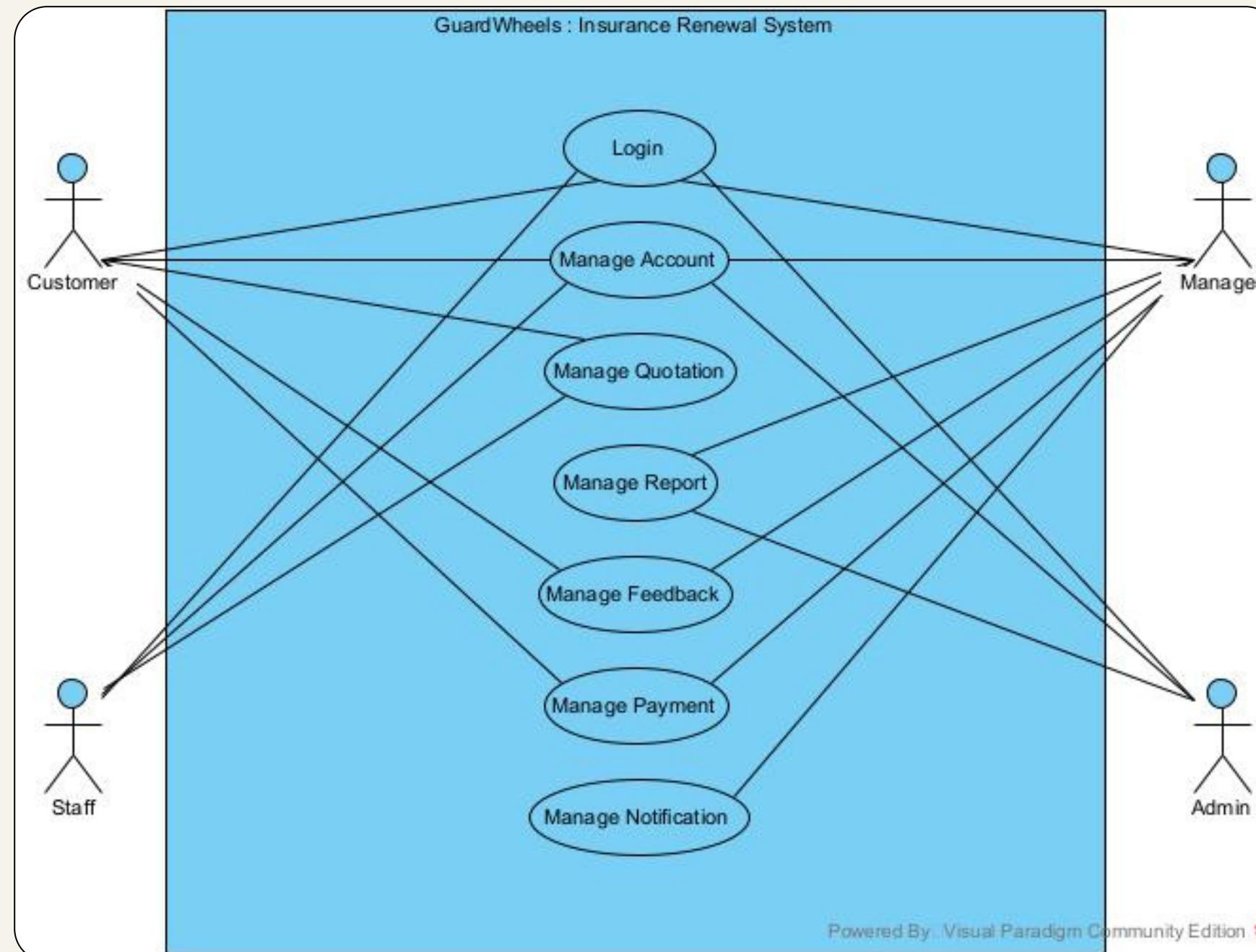
Reliability

Usability

Maintainability

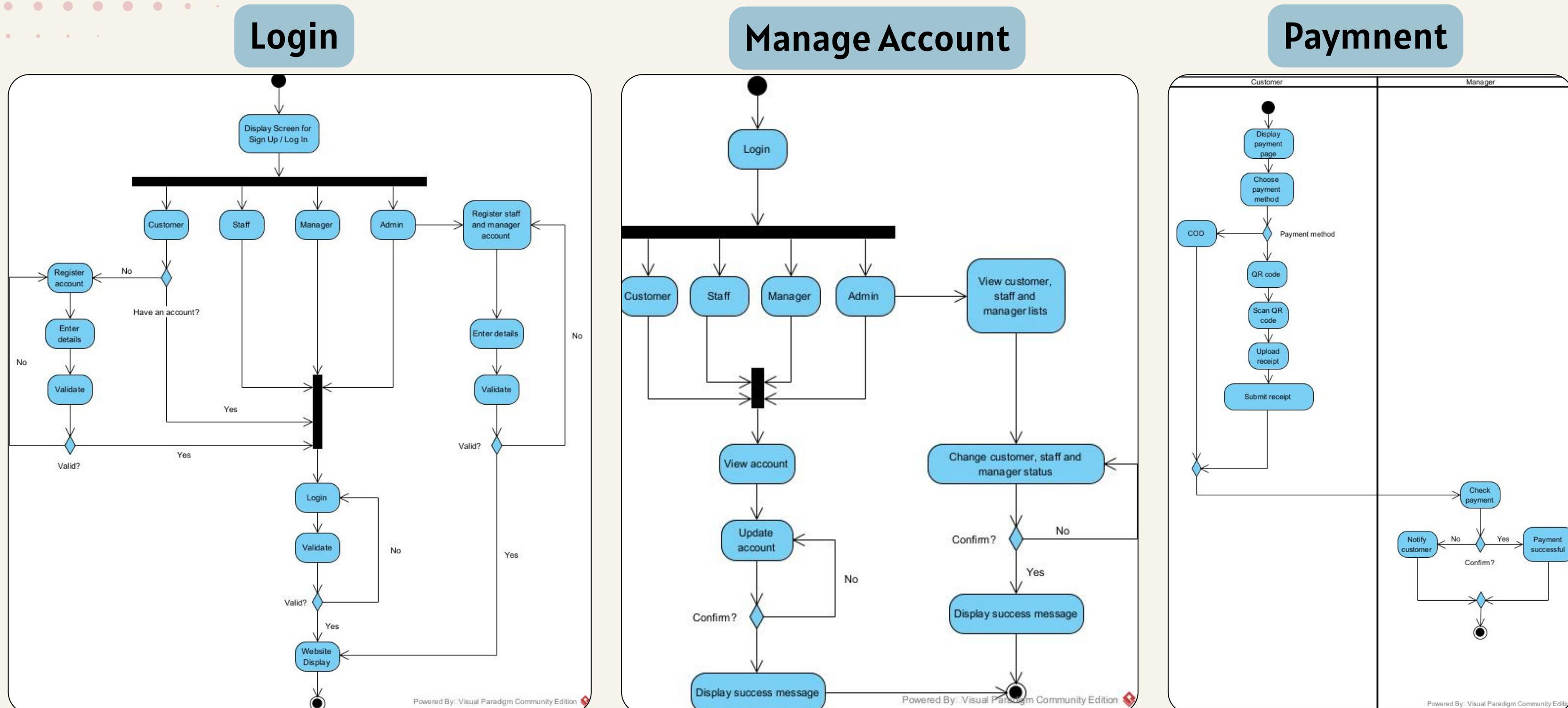
Localization

USE CASE DIAGRAM



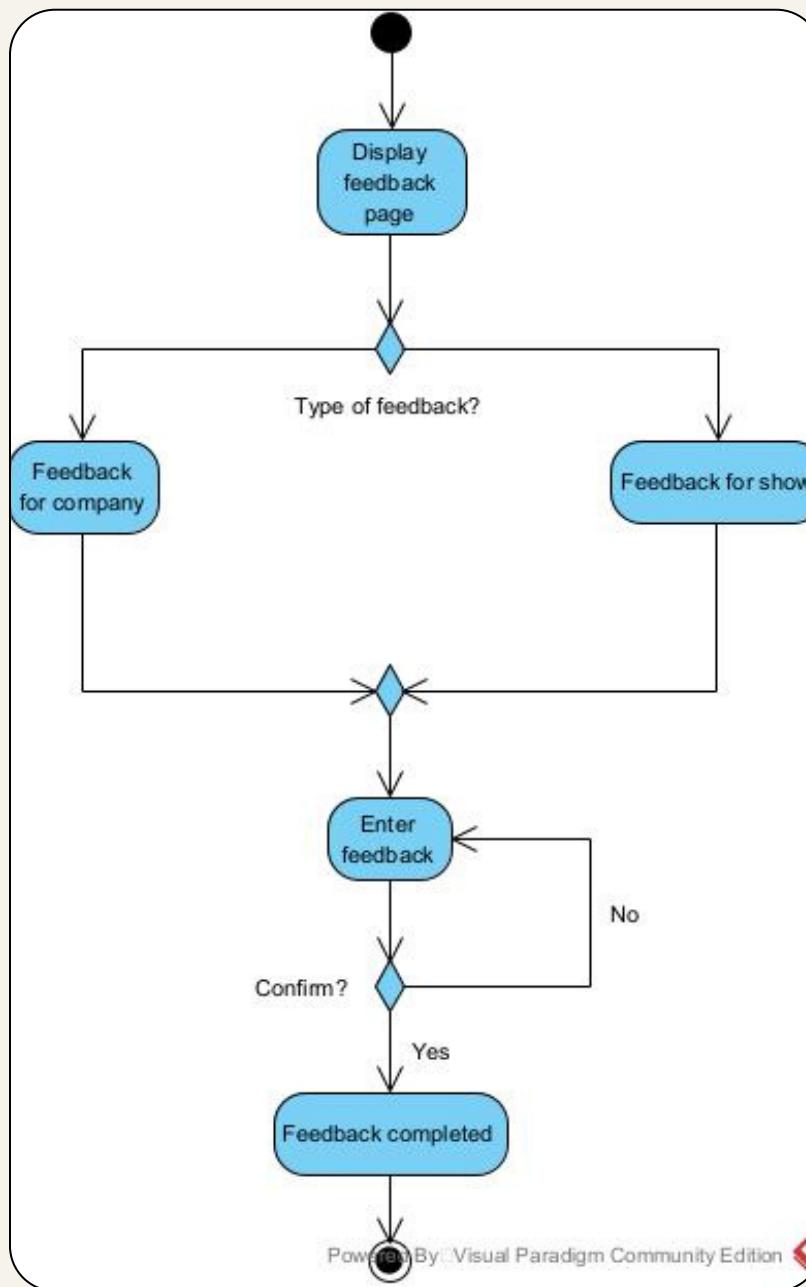
ACTIVITY DIAGRAM

16

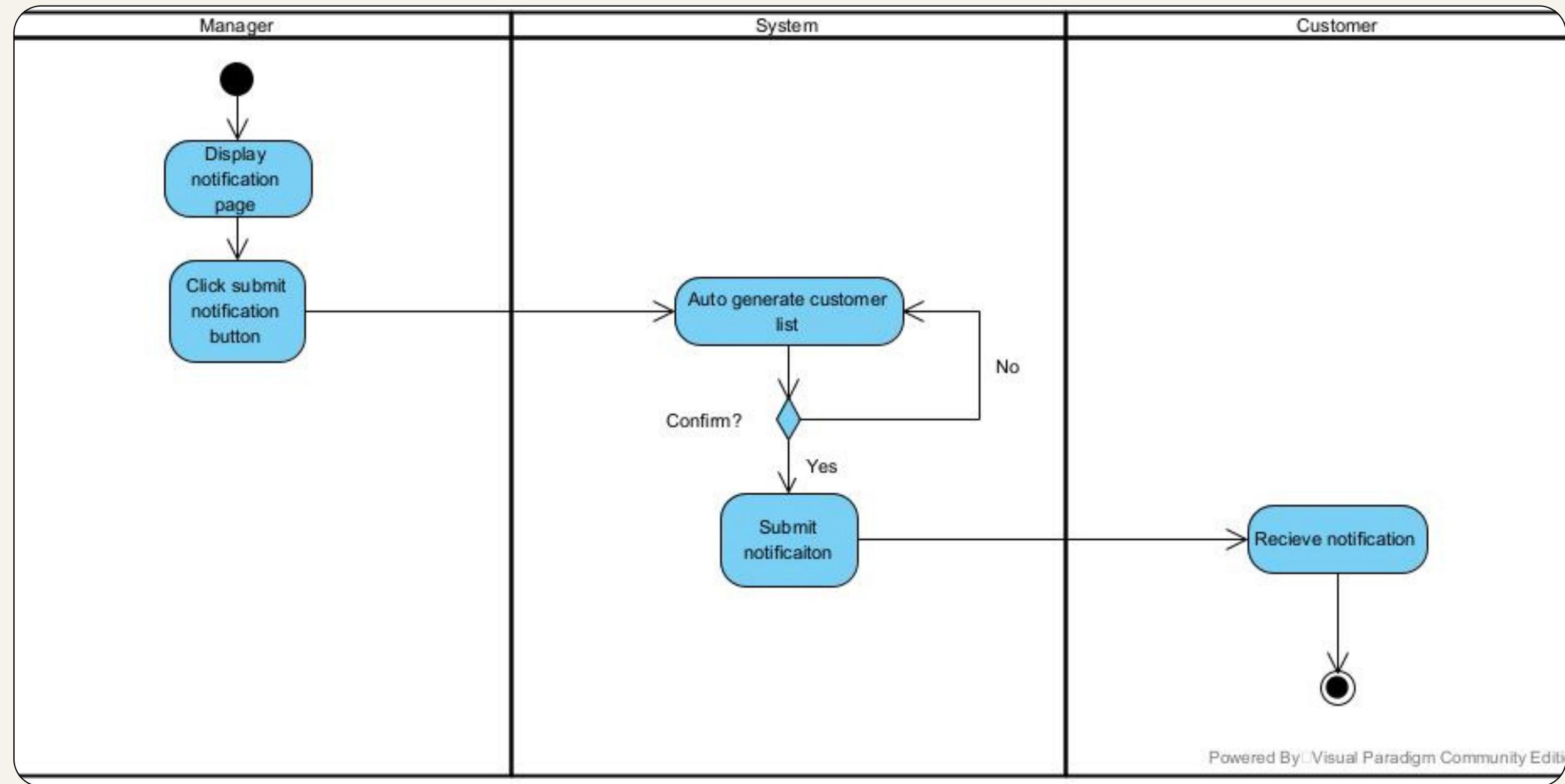


ACTIVITY DIAGRAM

Feedback

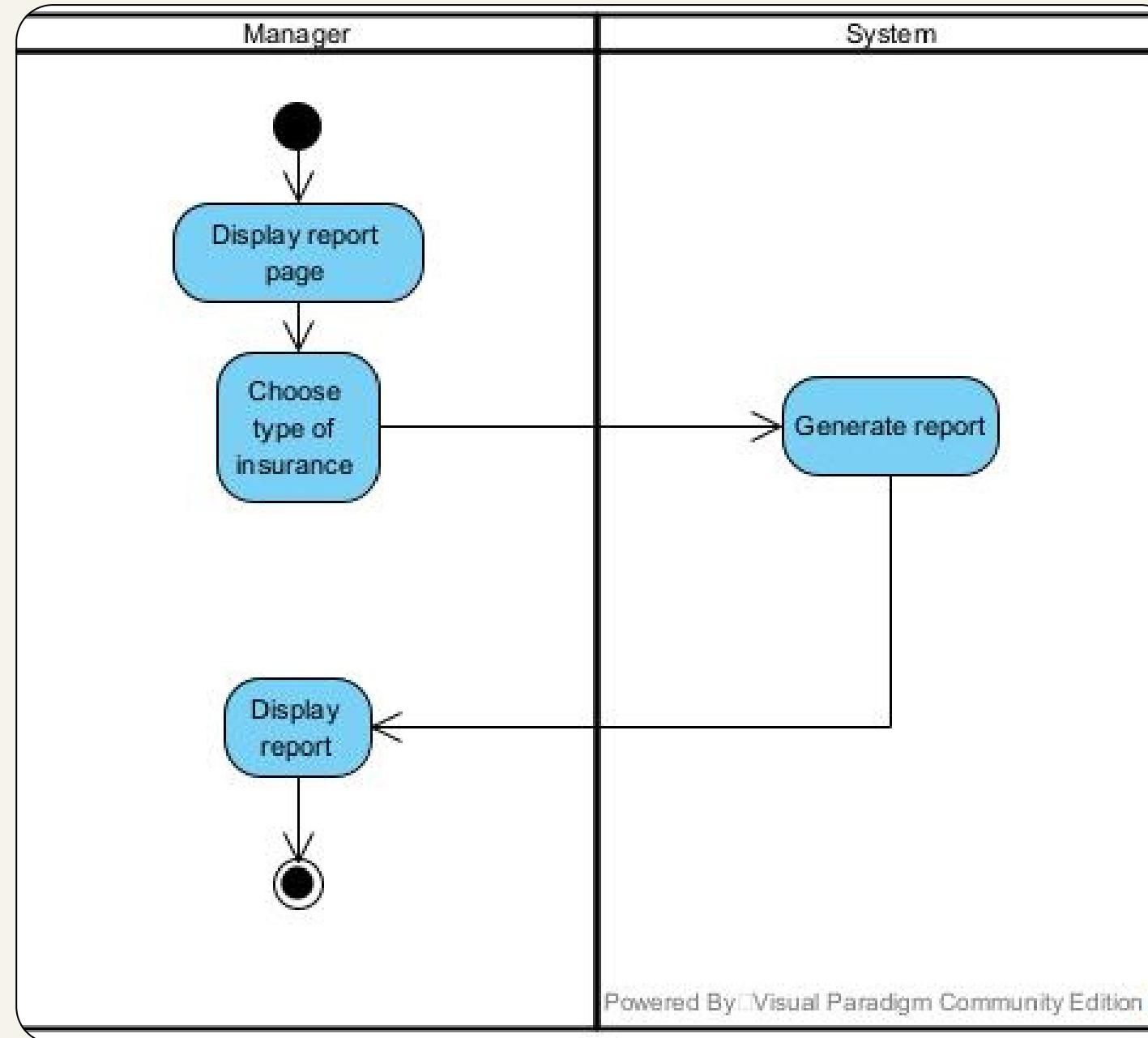


Notification

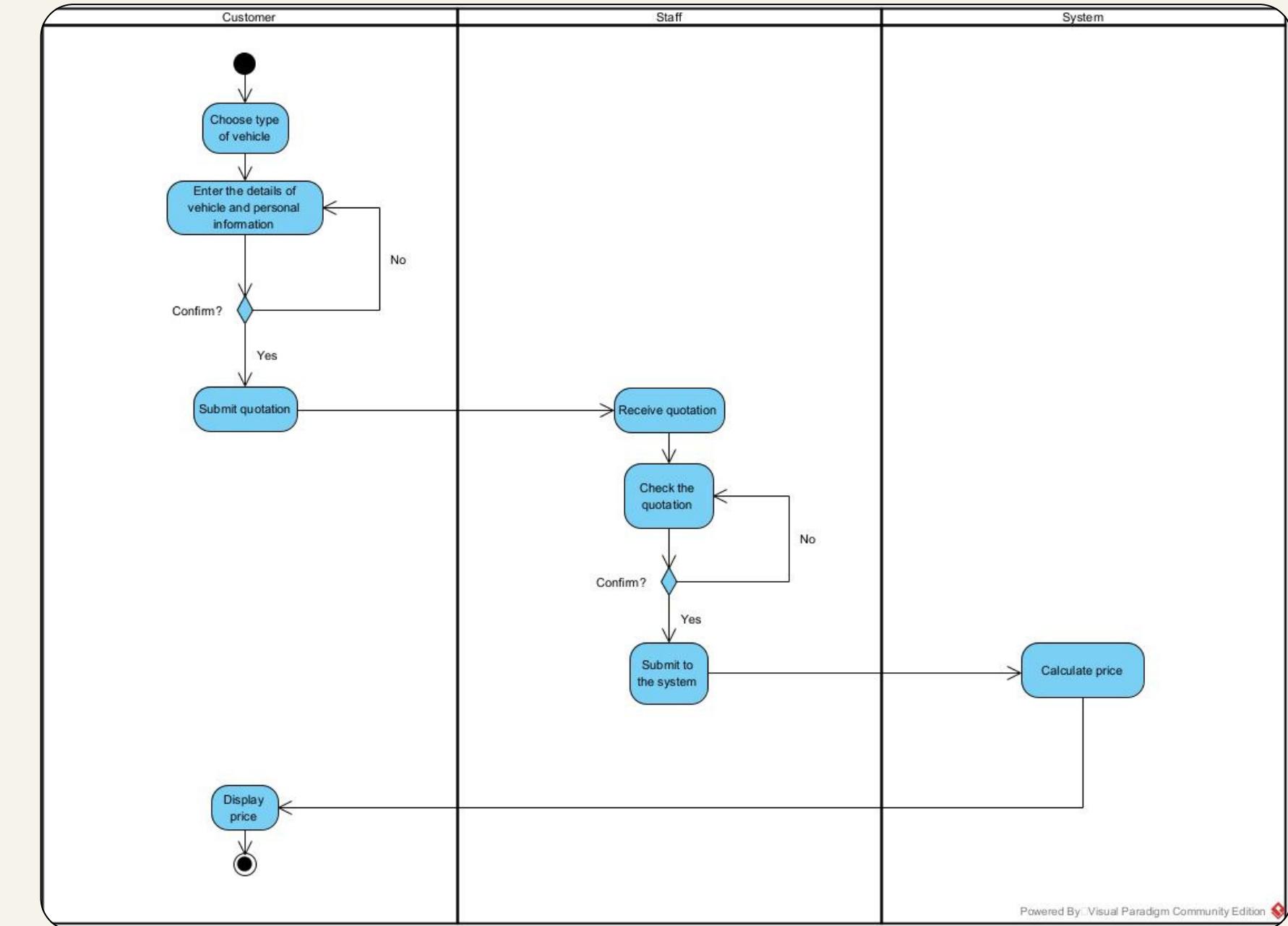


ACTIVITY DIAGRAM

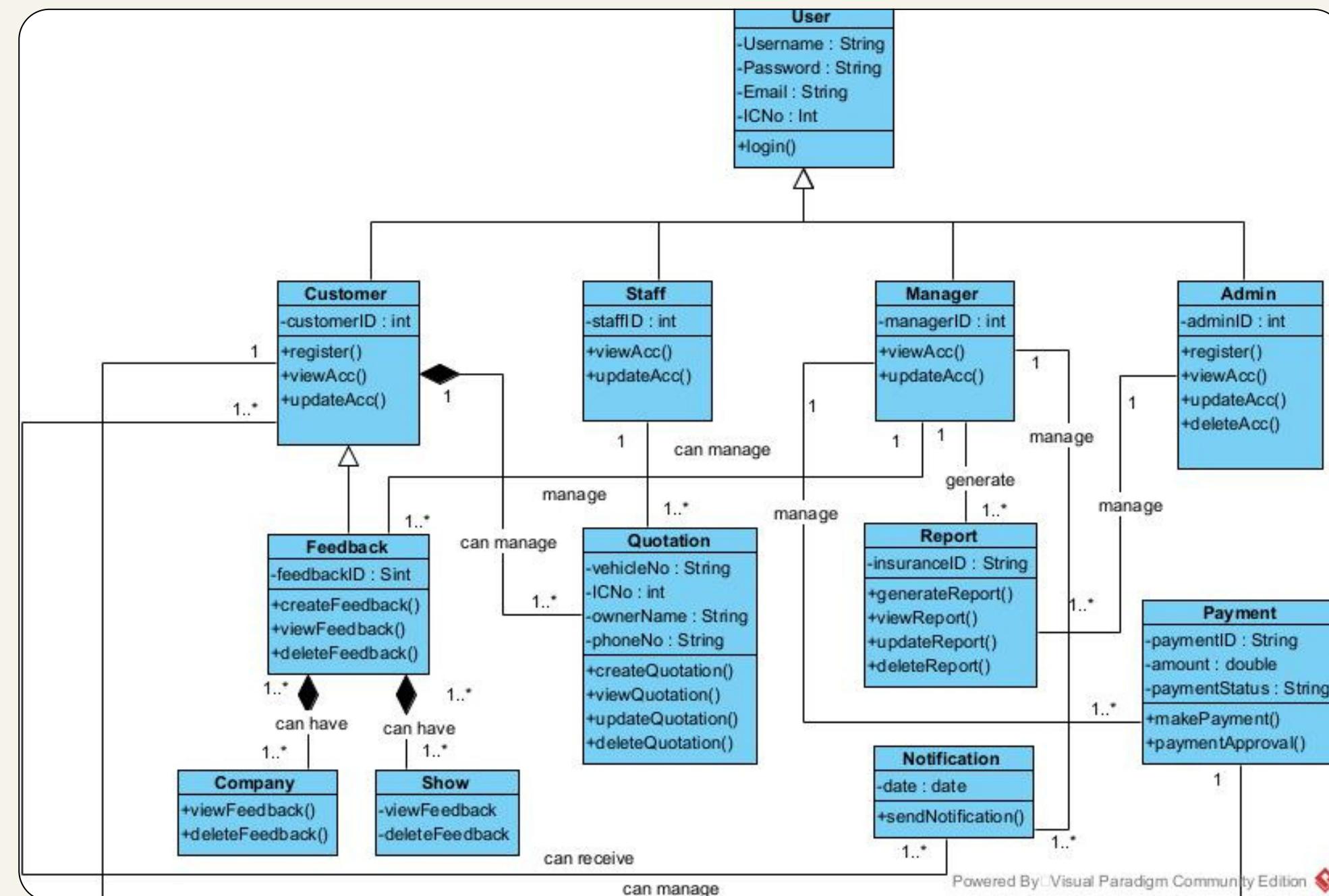
Report



Manage Quotation



CLASS DIAGRAM



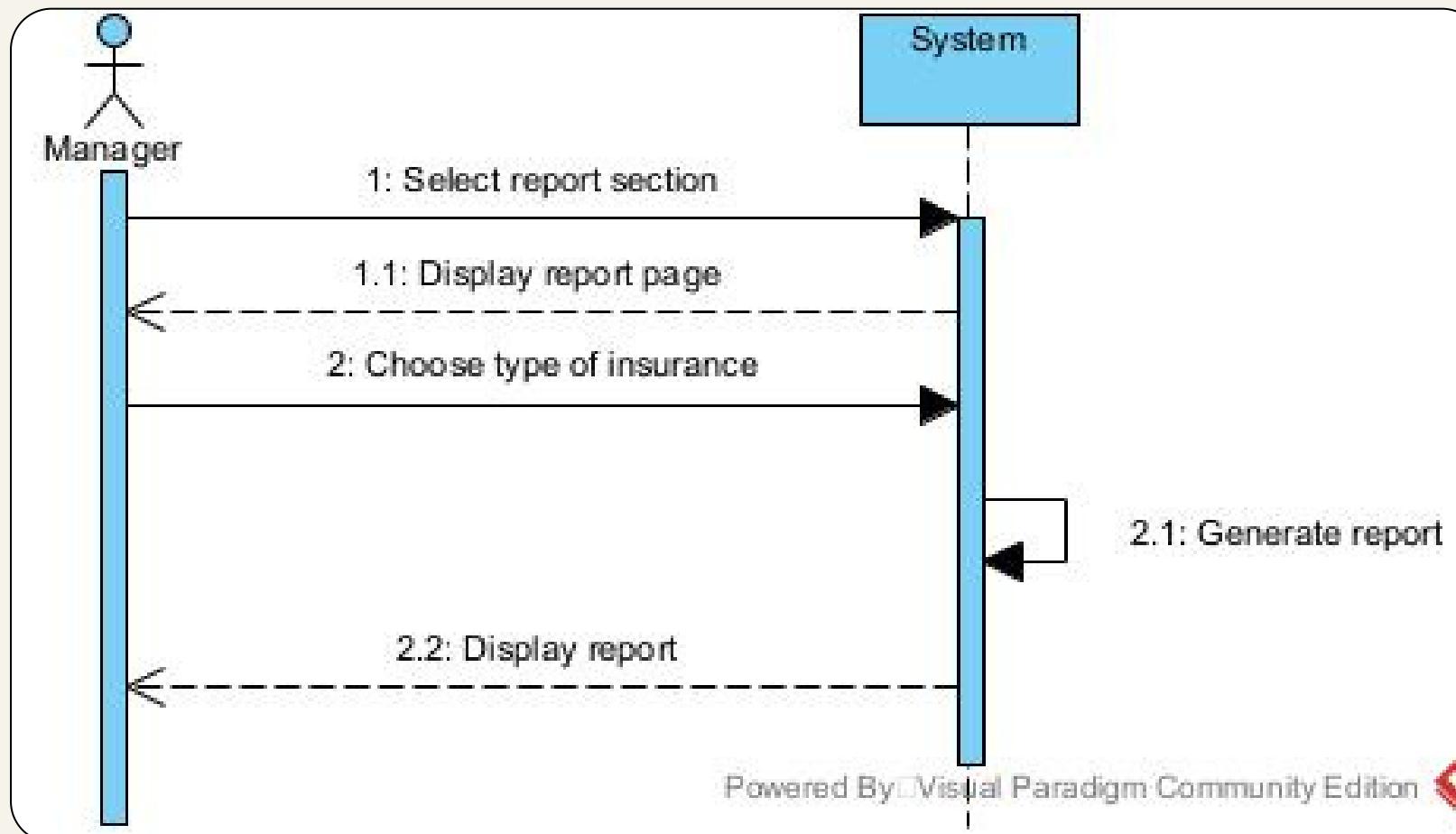
CRUD MATRIX

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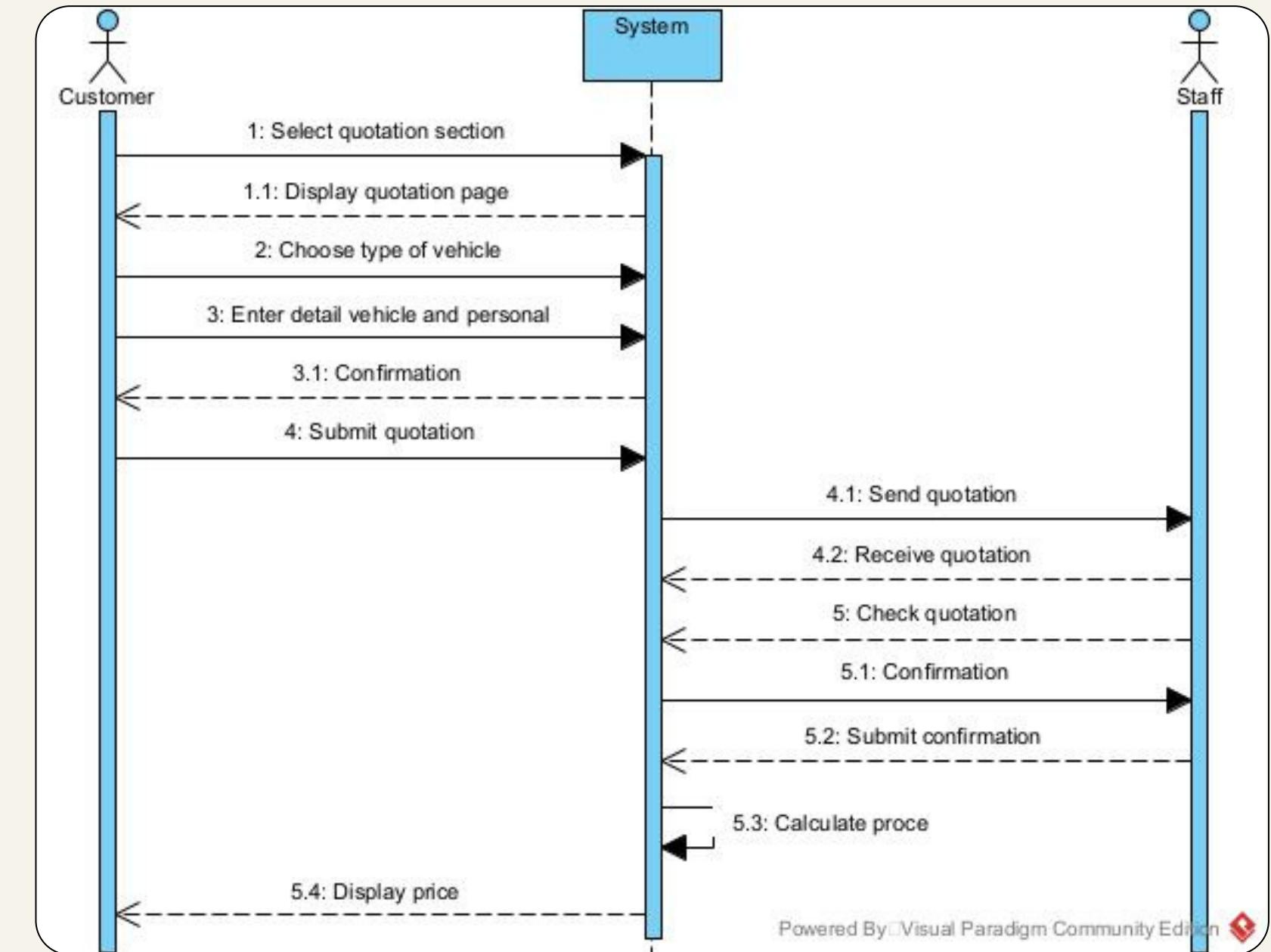
Use case	Admin	Manager	Staff	Customer
Manage Account	CRUD	UR	UR	CRU
Manage Quotation	-	-	RUD	CRUD
Manage Report	CRUD	CRUD	-	-
Manage Feedback	-	RD	-	CR
Manage Payment	-	RU	-	CRU
Manage Notification	-	CRUD	-	R

SEQUENCE DIAGRAM

Report

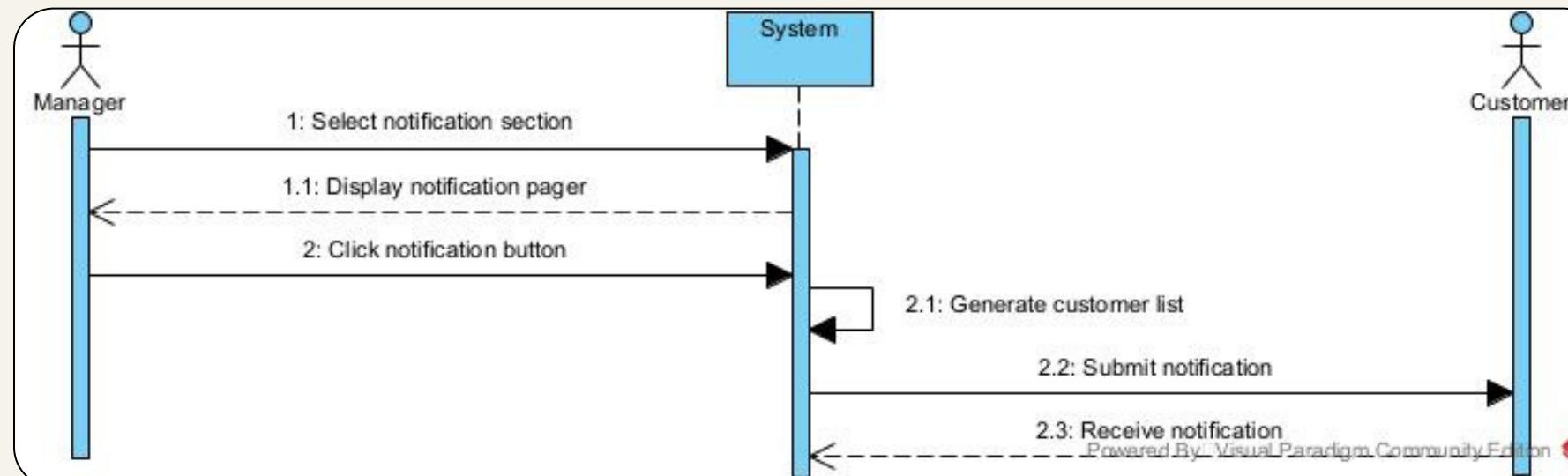


Manage Quotation

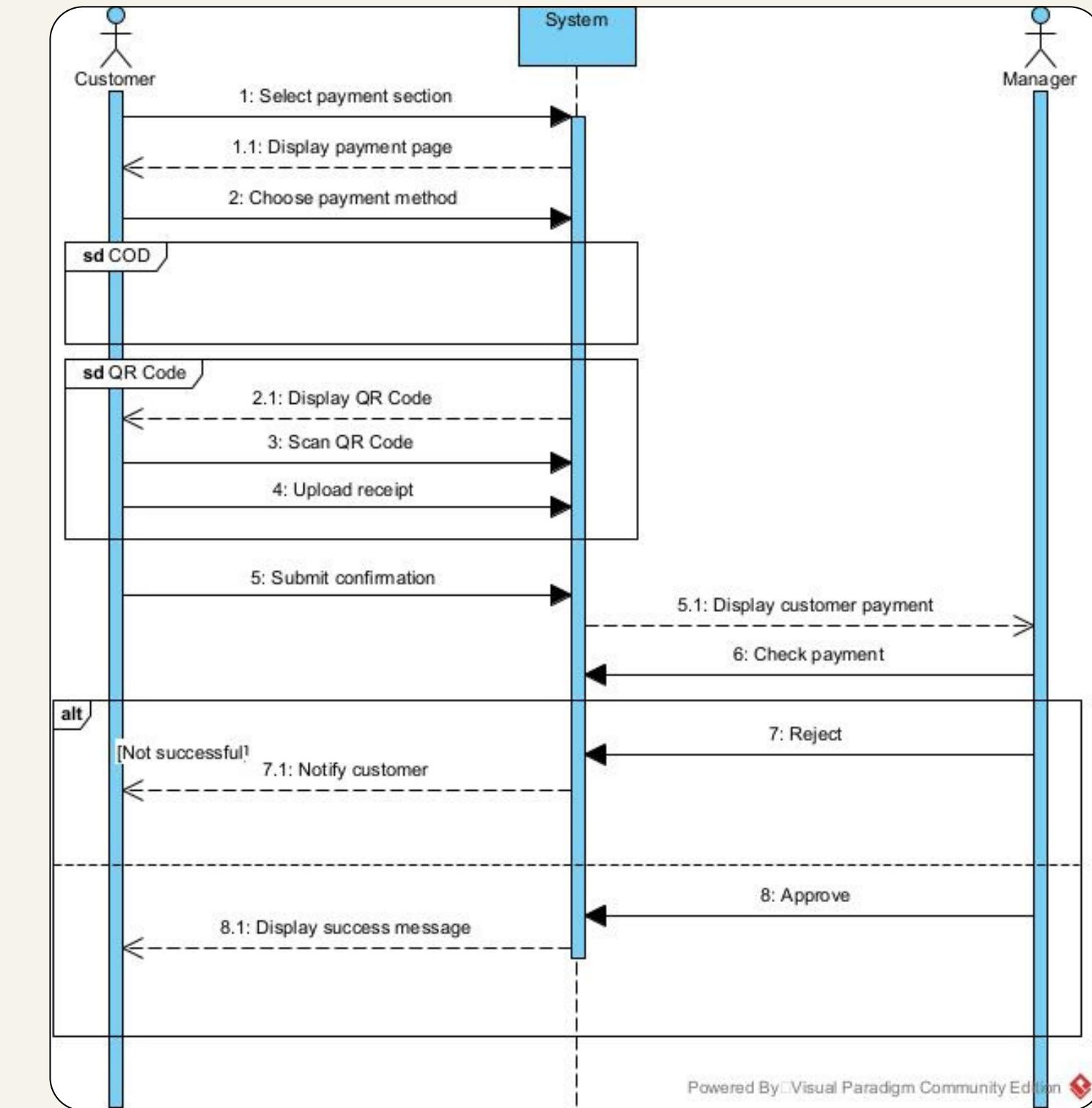


SEQUENCE DIAGRAM

Notification

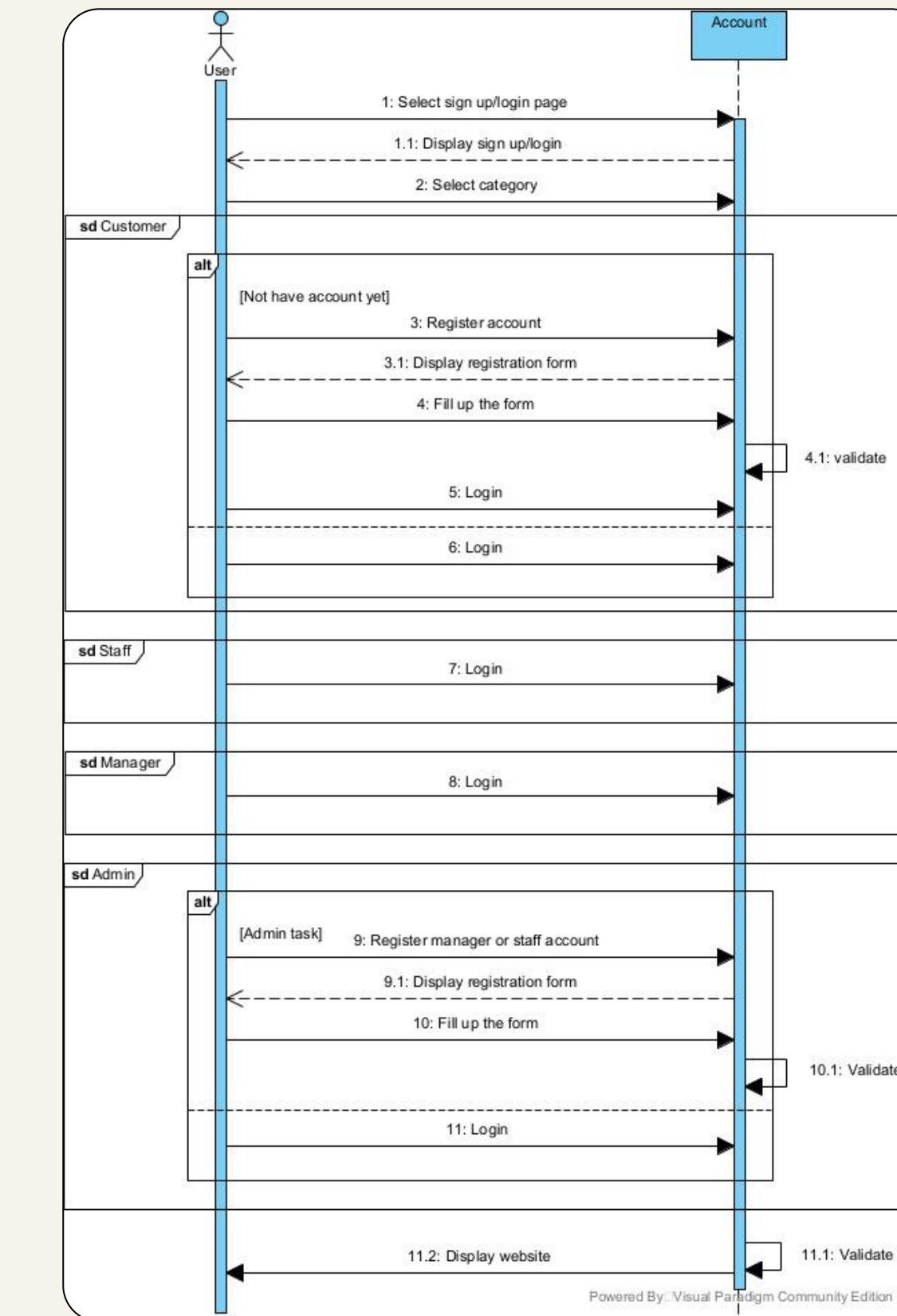
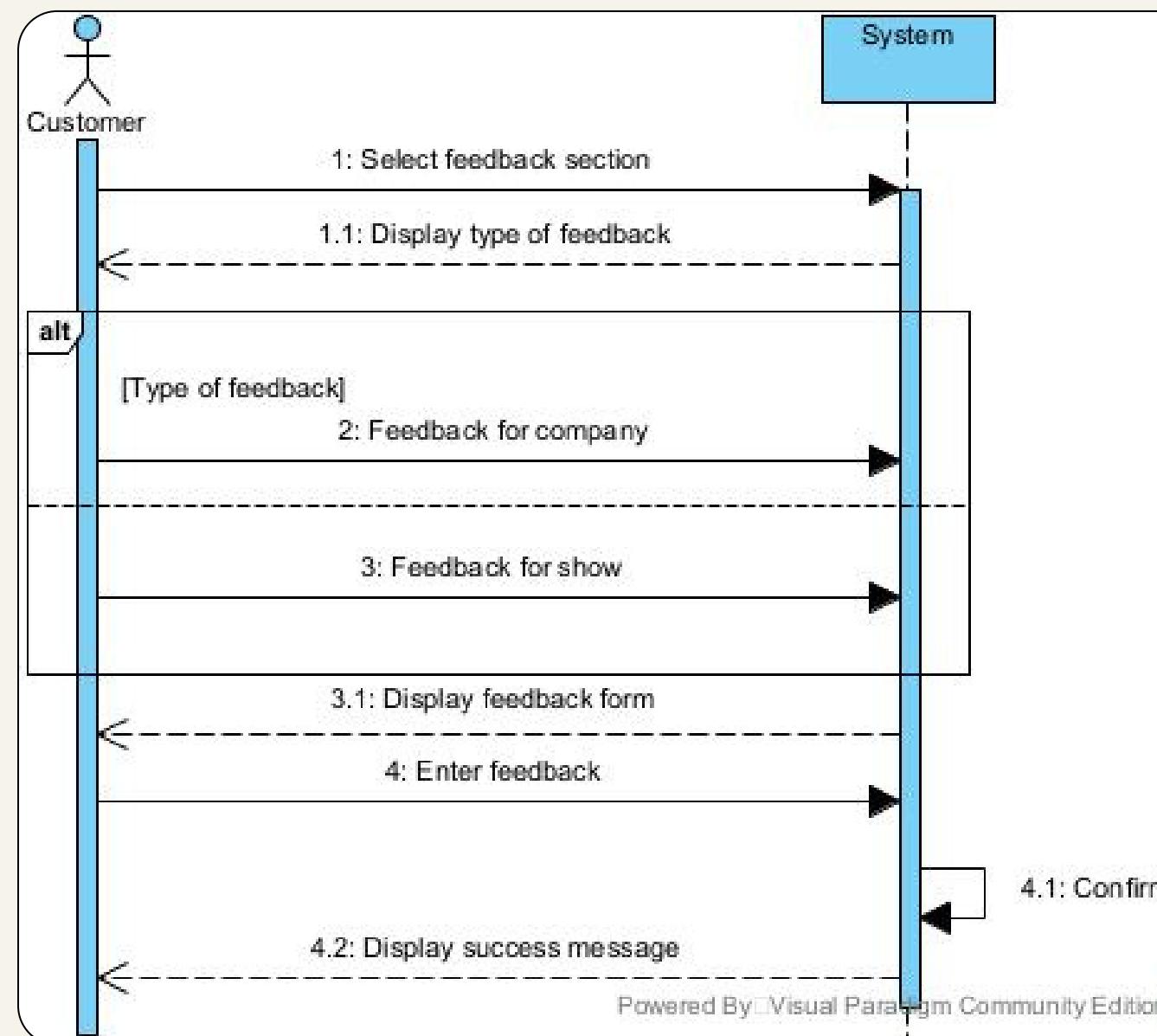


Payment



SEQUENCE DIAGRAM

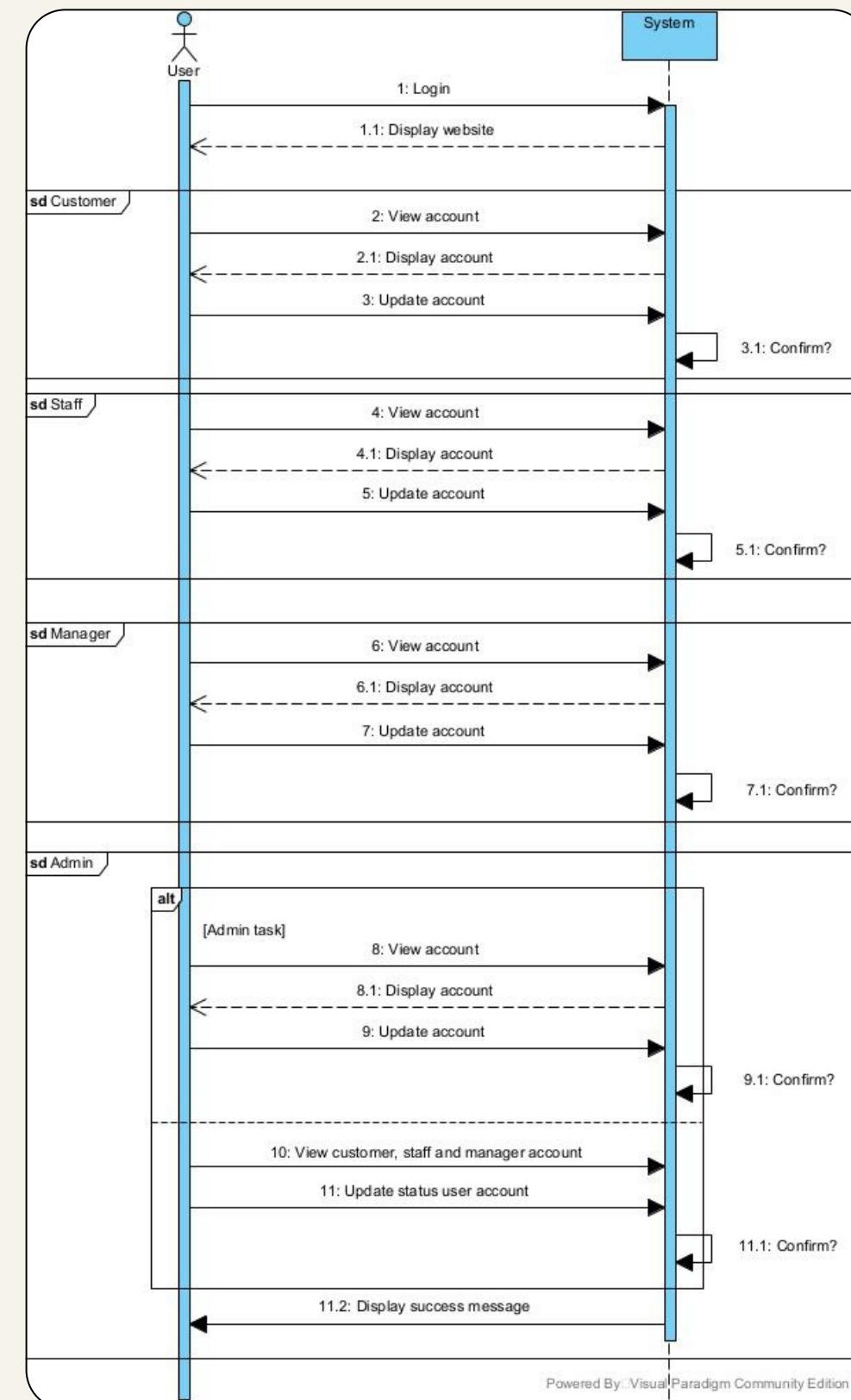
Feedback



Login

SEQUENCE DIAGRAM

Manage Account



NORMALIZATION

1NF

firstname	lastname	roles	userID	ICNumber	email	password	phone	residence	city	zipcode
Ihsan	Adli	Customer	C1001	021018110231	ihsan@gmail.com	Ihsan123	0166978058	Kg Bukit Datu	Kuala Nerus	21200
Amisha	Lazim	Customer	C1002	020209110098	amisha@gmail.com	misha090	0119238923	Kg Pak Katak	Marang	21030
Alif	Luqman	Customer	C1003	021124021233	alif@gmail.com	alif333	0123324658	Kg Kebor Besar	Kuala Terengganu	21200
Amir	Hamzah	Staff	S1001	021021110463	amir@irs.my	amir321	0125462736	Tualang, Manir	Kuala Terengganu	21200
Fatin	Akmal	Manager	M1001	001230113844	fatin@irs.my	fatin090	0198473849	Bukit Payong	Marang	21030
Haikal	Redzwani	Manager	M1002	020415110989	haikal@irs.my	haikal437	0174839992	Keramat	Ulu Klang	54000
Adli	Yong	Admin	A1001	741010110567	adli@irs.my	adli123	0139816630	Kg Duyong	Kuala Terengganu	21200

state	plateNumber	vehicleOwner	OwnerICNumber	vehicleType	vehicleModel	vehicleMake	vehicleCC	vehicleYear	engineNumber	chassisNumber	insuranceClaims	insuranceType	insuranceID	insuranceBroker
Terengganu	TAS2012	Ihsan	021018110231	Motocycle	Yamaha	Lagenda	113	2010	e1233b21v	d3123d3	No	Third Party	I1001	Pasific
	WNS3484	Ihsan	021018110231	Car	Perodua	Kenari	989	2004	e432432b3	d324324	Yes	Comprehensive	I1002	Takaful Ikhlas
Terengganu	DWG4319	Lazim	791023110233	Car	Honda	HRV	1500	2019	e12332hh3	d2b14b3	No	Comprehensive	I1003	Zurich
Terengganu	TAC5467	Alif	021124021233	Motocycle	Honda	EX5	110	2005	ebe3hbeuu	d3ud3ud	No	Third Party	I1004	Allianz
Terengganu														
Terengganu														
Selangor														
Terengganu														

feedback	paymentID	price	reportID	report	quotationID	quotationDate	statusQuotation
Good	P1001	RM89.90			101	8/1/2024	Pending
Nice	P1002	RM239.90			102	8/1/2024	Pending
Impressive	P1003	RM583.65			103	3/7/2023	Approve
Like this	P1003	RM90.00			104	1/12/2023	Reject
			R1001	Monthly			
			R1001	Monthly			
			R1002	Annually			

NORMALIZATION

INF

Customer

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state	feedback	plateNumber	vehicleOwner
C1001	Ihsan	Adli	Customer	021018110231	ihsan@gmail.com	Ihsan123	0166978058	Kg Bukit Datu	Kuala Nerus	21200	Terengganu	Good	TAS2012	Ihsan
C1001	Ihsan	Adli	Customer	021018110231	ihsan@gmail.com	Ihsan123	0166978058	Kg Bukit Datu	Kuala Nerus	21200	Terengganu	Nice	WNS3484	Ihsan
C1002	Amisha	Lazim	Customer	020209110098	amisha@gmail.com	misha090	0119238923	Kg Pak Katak	Marang	21030	Terengganu	Impressive	DWG4319	Lazim
C1003	Alif	Luqman	Customer	021124021233	alif@gmail.com	alif333	0123324658	Kg Kebor Besar	Kuala Terengganu	21200	Terengganu	Like this	TAC5467	Alif

OwnerIDNumber	vehicleType	vehicleModel	vehicleMake	vehicleCC	vehicleYear	engineNumber	chassisNumber	insuranceClaims	insuranceType	insuranceID	insuranceBroker	price	paymentID	quotationID	quotationDate	statusQuotation
021018110231	Motocycle	Yamaha	Lagenda	113	2010	e1233b21v	d3123d3	No	Third Party	I1001	Pacific	RM89.90	P1001	101	8/1/2024	Pending
021018110231	Car	Perodua	Kenari	989	2004	e432432b3	d324324	Yes	Comprehensive	I1002	Takaful Ikhlas	RM239.90	P1002	102	8/1/2024	Pending
791023110233	Car	Honda	HRV	1500	2019	e12332hh3	d2b14b3	No	Comprehensive	I1003	Zurich	RM583.65	P1003	103	3/7/2023	Approve
021124021233	Motocycle	Honda	EX5	110	2005	ebe3hbeuu	d3ud3ud	No	Third Party	I1004	Allianz	RM90.00	P1003	104	1/12/2023	Reject

Staff

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state
S1001	Amir	Hamzah	Staff	021021110463	amir@irs.my	amir321	0125462736	Tualang, Manir	Kuala Terengganu	21200	Terengganu

Manager

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state	reportID	report
M1001	Fatin	Akmal	Manager	001230113844	fatin@irs.my	fatin090	0198473849	Bukit Payong	Marang	21030	Terengganu	R1001	Monthly
M1002	Haikal	Redzwani	Manager	020415110989	haikal@irs.my	haikal437	0174839992	Keramat	Ulu Klang	54000	Selangor	R1001	Monthly

NORMALIZATION

INF

Admin

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state	reportID	report
A1001	Adli	Yong	Admin	741010110567	adli@irs.my	adli123	0139816630	Kg Duyong	Kuala Terengganu	21200	Terengganu	R1002	Annually

NORMALIZATION

2NF

Customer

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state	feedback
C1001	Ihsan	Adli	Customer	021018110231	ihsan@gmail.com	Ihsan123	0166978058	Kg Bukit Datu	Kuala Nerus	21200	Terengganu	Good
C1001	Ihsan	Adli	Customer	021018110231	ihsan@gmail.com	Ihsan123	0166978058	Kg Bukit Datu	Kuala Nerus	21200	Terengganu	Nice
C1002	Amisha	Lazim	Customer	020209110098	amisha@gmail.com	misha090	0119238923	Kg Pak Katak	Marang	21030	Terengganu	Impressive
C1003	Alif	Lugman	Customer	021124021233	alif@gmail.com	alif333	0123324658	Kg Kebor Besar	Kuala Terengganu	21200	Terengganu	Like this

Vehicle

userID	plateNumber	vehicleOwner	OwnerICNumber	vehicleType	vehicleModel	vehicleMake	vehicleCC	vehicleYear	engineNumber	chassisNumber	insuranceClaims	insuranceType	insuranceID	insuranceBroker	paymentID
C1001	TAS2012	Ihsan	021018110231	Motocycle	Yamaha	Lagenda	113	2010	e1233b21v	d3123d3	No	Third Party	I1001	Pasific	P1001
C1001	WNS3484	Ihsan	021018110231	Car	Perodua	Kenari	989	2004	e432432b3	d324324	Yes	Comprehensive	I1002	Takaful Ikhlas	P1002
C1002	DWG4319	Lazim	791023110233	Car	Honda	HRV	1500	2019	e12332hh3	d2b14b3	No	Comprehensive	I1003	Zurich	P1003
C1003	TAC5467	Alif	021124021233	Motocycle	Honda	EX5	110	2005	ebe3hbeuu	d3ud3ud	No	Third Party	I1004	Allianz	P1003

Staff

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state
S1001	Amir	Hamzah	Staff	021021110463	amir@irs.my	amir321	0125462736	Tualang, Manir	Kuala Terengganu	21200	Terengganu

NORMALIZATION

2NF

Manager

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state	reportID
M1001	Fatin	Akmal	Manager	001230113844	fatin@irs.my	fatin090	0198473849	Bukit Payong	Marang	21030	Terengganu	R1001
M1002	Haikal	Redzwan	Manager	020415110989	haikal@irs.my	haikal437	0174839992	Keramat	Ulu Klang	54000	Selangor	R1001

Admin

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state	reportID
A1001	Adli	Yong	Admin	741010110567	adli@irs.my	adli123	0139816630	Kg Duyong	Kuala Terengganu	21200	Terengganu	R1002

Quotation

userID	quotationID	quotationDate	statusQuotation
C1001	101	8/1/2024	Pending
C1001	102	8/1/2024	Pending
C1002	103	3/7/2023	Approve
C1003	104	1/12/2023	Reject

Report

reportID	report
R1001	Monthly
R1002	Annually

Payment

userID	plateNumber	paymentID	price
C1001	TAS2012	P1001	RM89.90
C1001	WNS3484	P1002	RM239.90
C1002	DWG4319	P1003	RM583.65
C1003	TAC5467	P1003	RM90.00

NORMALIZATION

3NF

Customer

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state	feedback
C1001	Ihsan	Adli	Customer	021018110231	ihsan@gmail.com	Ihsan123	0166978058	Kg Bukit Datu	Kuala Nerus	21200	Terengganu	Good
C1001	Ihsan	Adli	Customer	021018110231	ihsan@gmail.com	Ihsan123	0166978058	Kg Bukit Datu	Kuala Nerus	21200	Terengganu	Nice
C1002	Amisha	Lazim	Customer	020209110098	amisha@gmail.com	misha090	0119238923	Kg Pak Katak	Marang	21030	Terengganu	Impressive
C1003	Alif	Lugman	Customer	021124021233	alif@gmail.com	alif333	0123324658	Kg Kebor Besar	Kuala Terengganu	21200	Terengganu	Like this

Vehicle

userID	plateNumber	vehicleOwner	OwnerICNumber	vehicleType	vehicleModel	vehicleMake	vehicleCC	vehicleYear	engineNumber	chassisNumber	insuranceClaims	insuranceType	insuranceID	price	paymentID
C1001	TAS2012	Ihsan	021018110231	Motocycle	Yamaha	Lagenda	113	2010	e1233b21v	d3123d3	No	Third Party	I1001	RM89.90	P1001
C1001	WNS3484	Ihsan	021018110231	Car	Perodua	Kenari	989	2004	e432432b3	d324324	Yes	Comprehensive	I1002	RM239.90	P1002
C1002	DWG4319	Lazim	791023110233	Car	Honda	HRV	1500	2019	e12332hh3	d2b14b3	No	Comprehensive	I1003	RM583.65	P1003
C1003	TAC5467	Alif	021124021233	Motocycle	Honda	EX5	110	2005	ebe3hbeuu	d3ud3ud	No	Third Party	I1004	RM90.00	P1003

Staff

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state
S1001	Amir	Hamzah	Staff	021021110463	amir@irs.my	amir321	0125462736	Tualang, Manir	Kuala Terengganu	21200	Terengganu

NORMALIZATION

3NF

Manager

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state	reportID
M1001	Fatin	Akmal	Manager	001230113844	fatin@irs.my	fatin090	0198473849	Bukit Payong	Marang	21030	Terengganu	R1001
M1002	Haikal	Redzwan	Manager	020415110989	haikal@irs.my	haikal437	0174839992	Keramat	Ulu Klang	54000	Selangor	R1001

Admin

userID	firstname	lastname	roles	ICNumber	email	password	phone	residence	city	zipcode	state	reportID
A1001	Adli	Yong	Admin	741010110567	adli@irs.my	adli123	0139816630	Kg Duyong	Kuala Terengganu	21200	Terengganu	R1002

Quotation

userID	quotationID	quotationDate	statusQuotation
C1001	101	8/1/2024	Pending
C1001	102	8/1/2024	Pending
C1002	103	3/7/2023	Approve
C1003	104	1/12/2023	Reject

Report

reportID	report
R1001	Monthly
R1002	Annually

Insurance

insuranceID	insuranceBroker
I1001	Pasific
I1002	Takaful Ikhlas
I1003	Zurich
I1004	Allianz

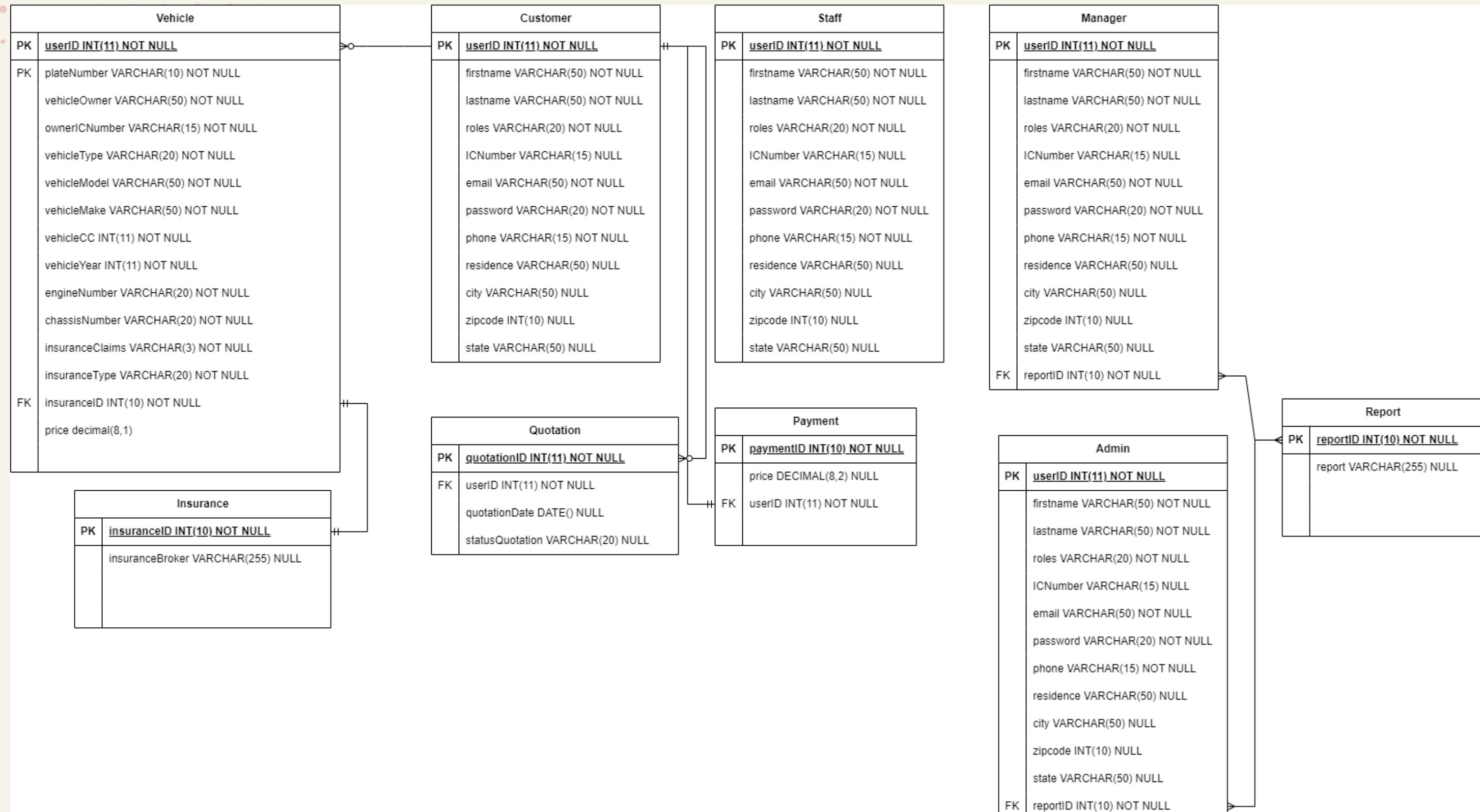
NORMALIZATION

3NF

Payment

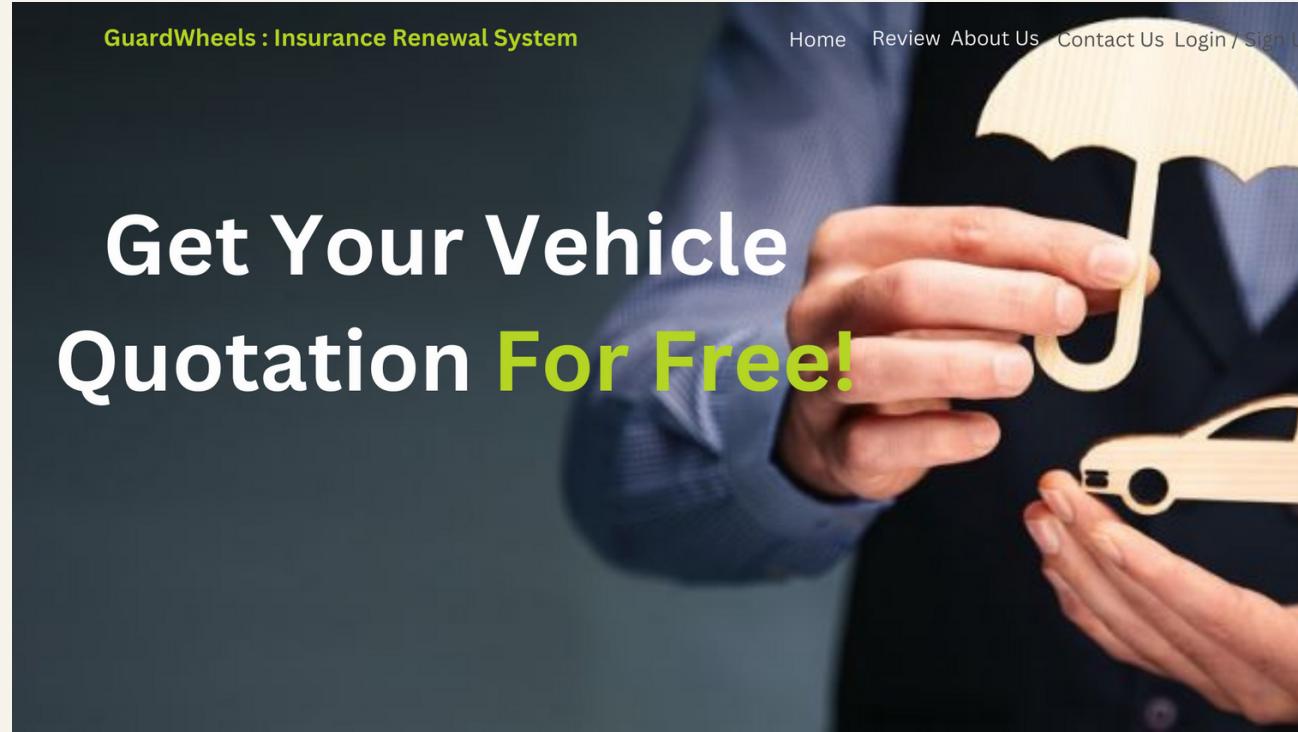
userID	plateNumber	paymentID	price
C1001	TAS2012	P1001	RM89.90
C1001	WNS3484	P1002	RM239.90
C1002	DWG4319	P1003	RM583.65
C1003	TAC5467	P1003	RM90.00

ERD

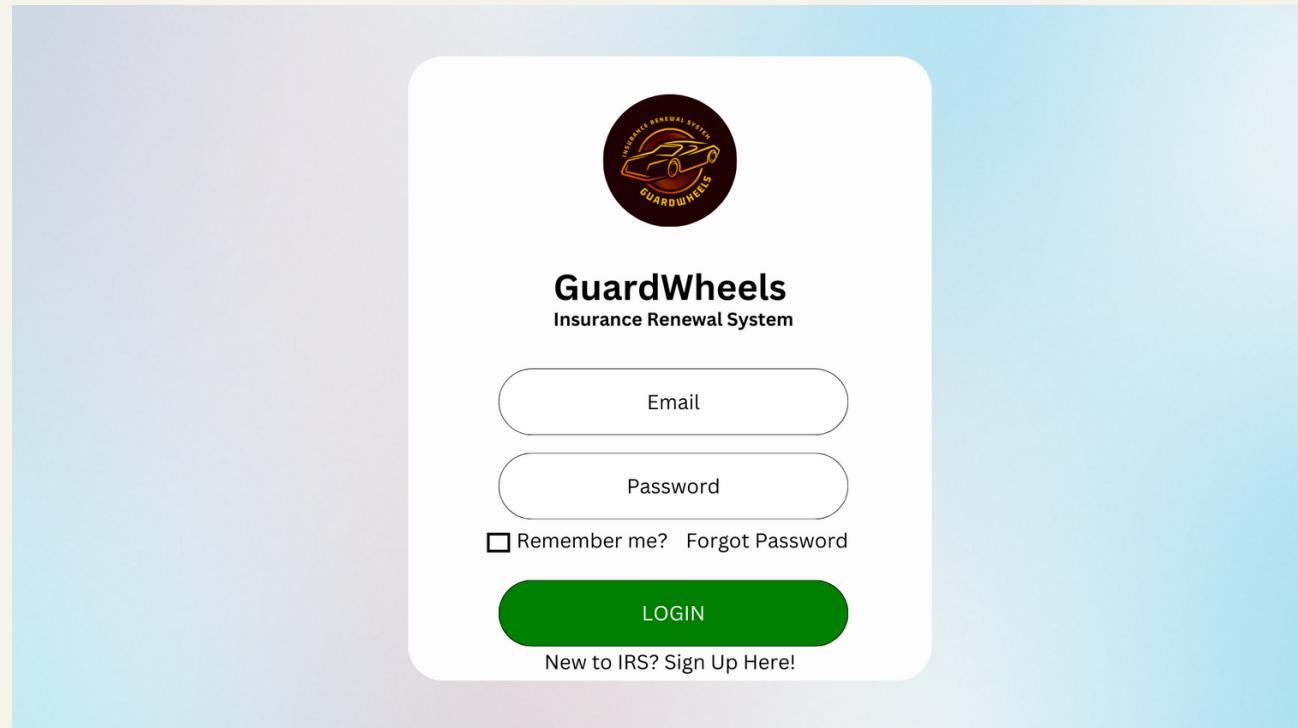


INTERFACE

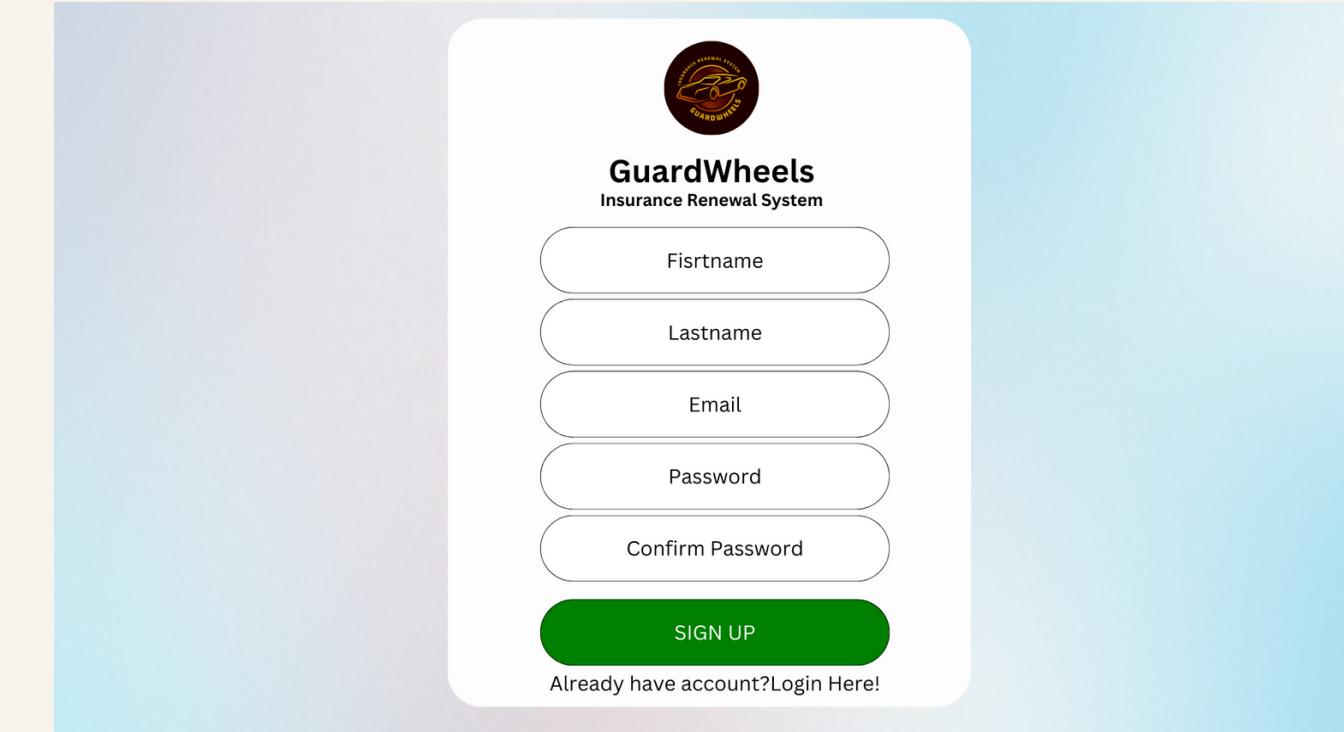
homepage



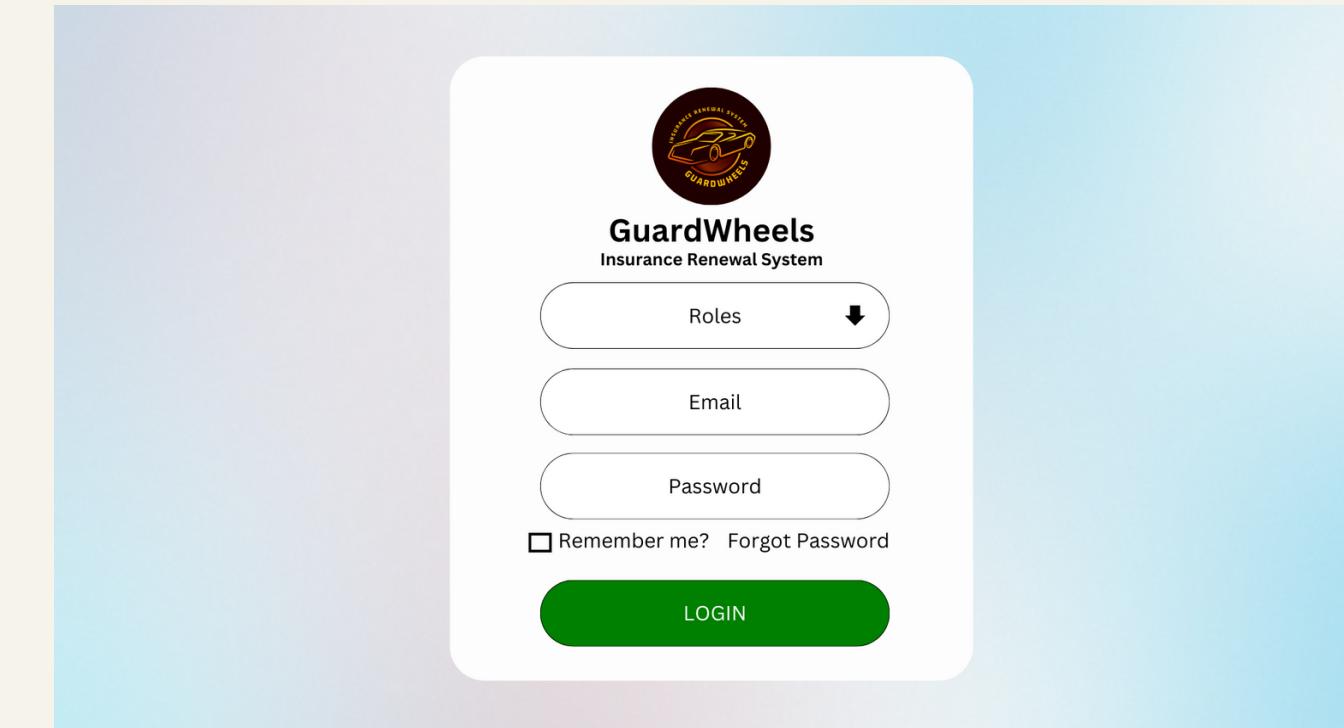
customer login page



customer register page

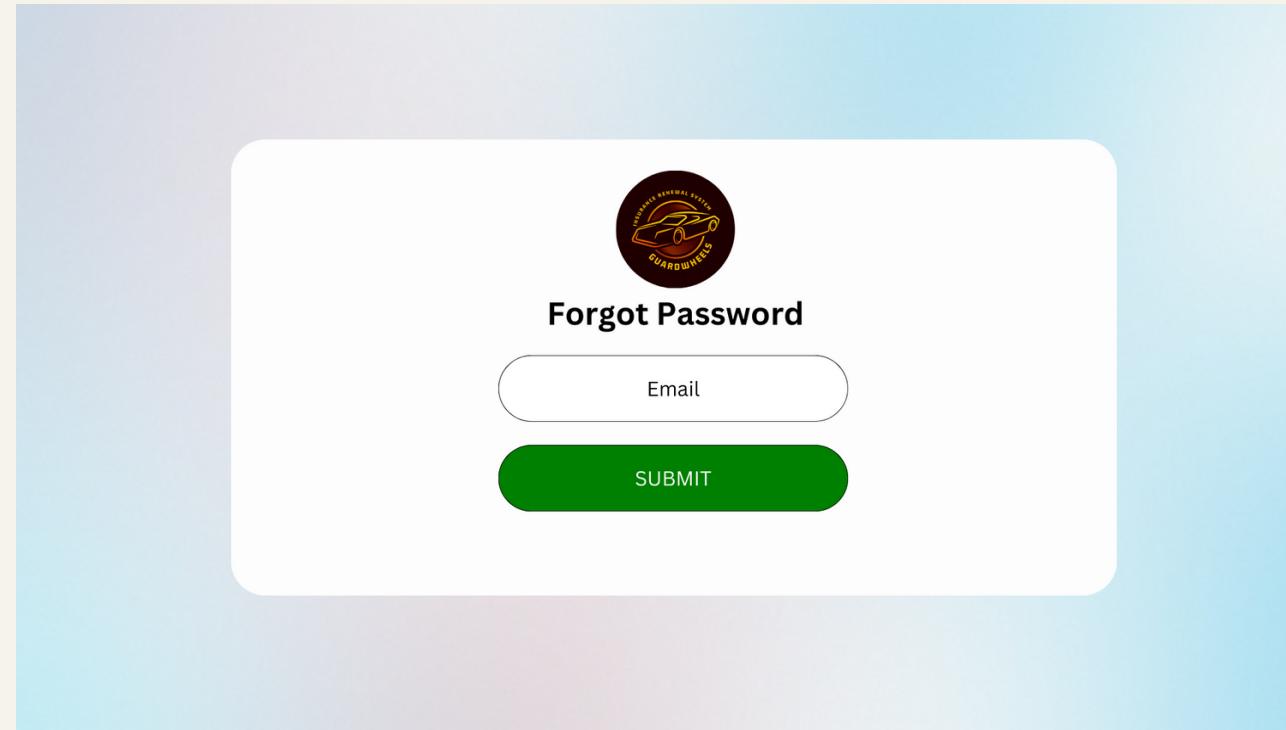


staff login page

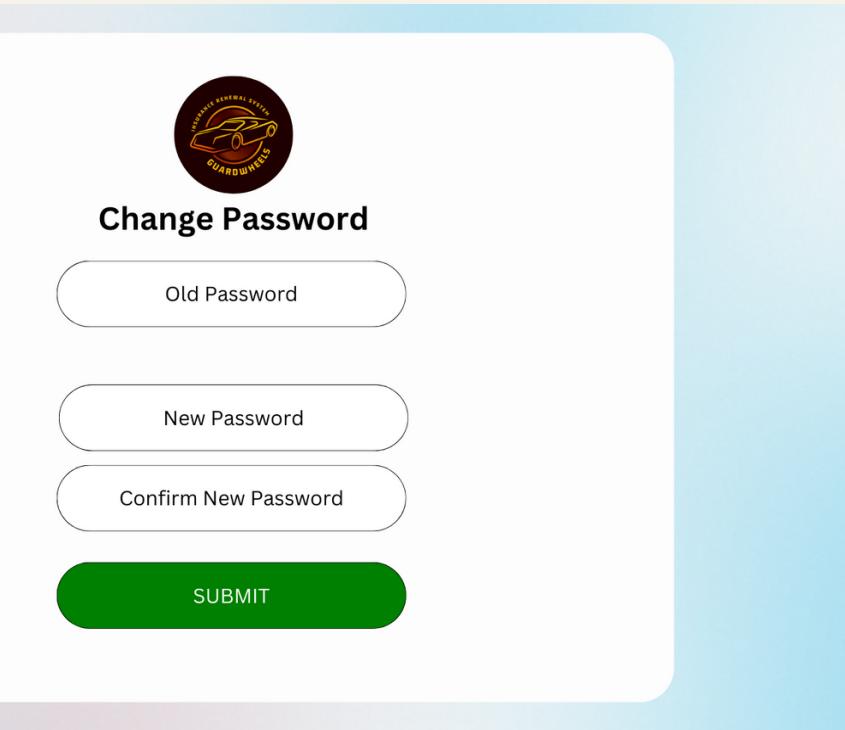
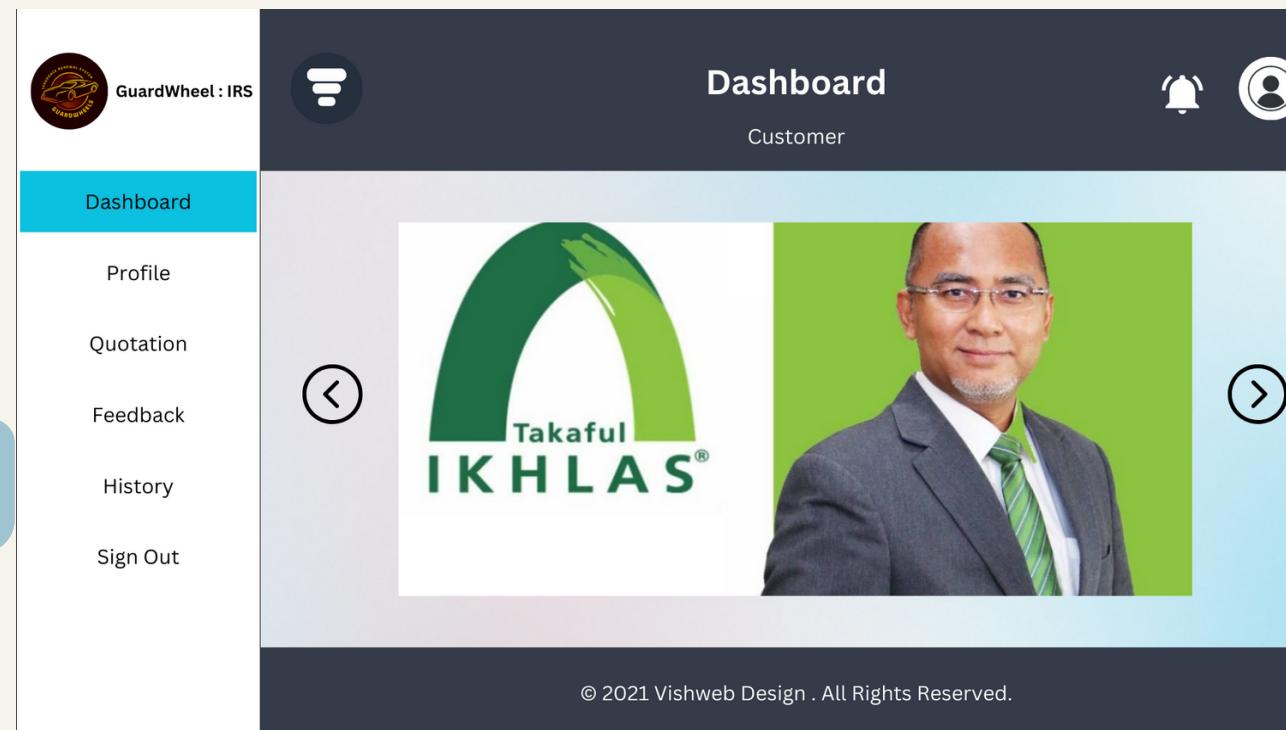


INTERFACE

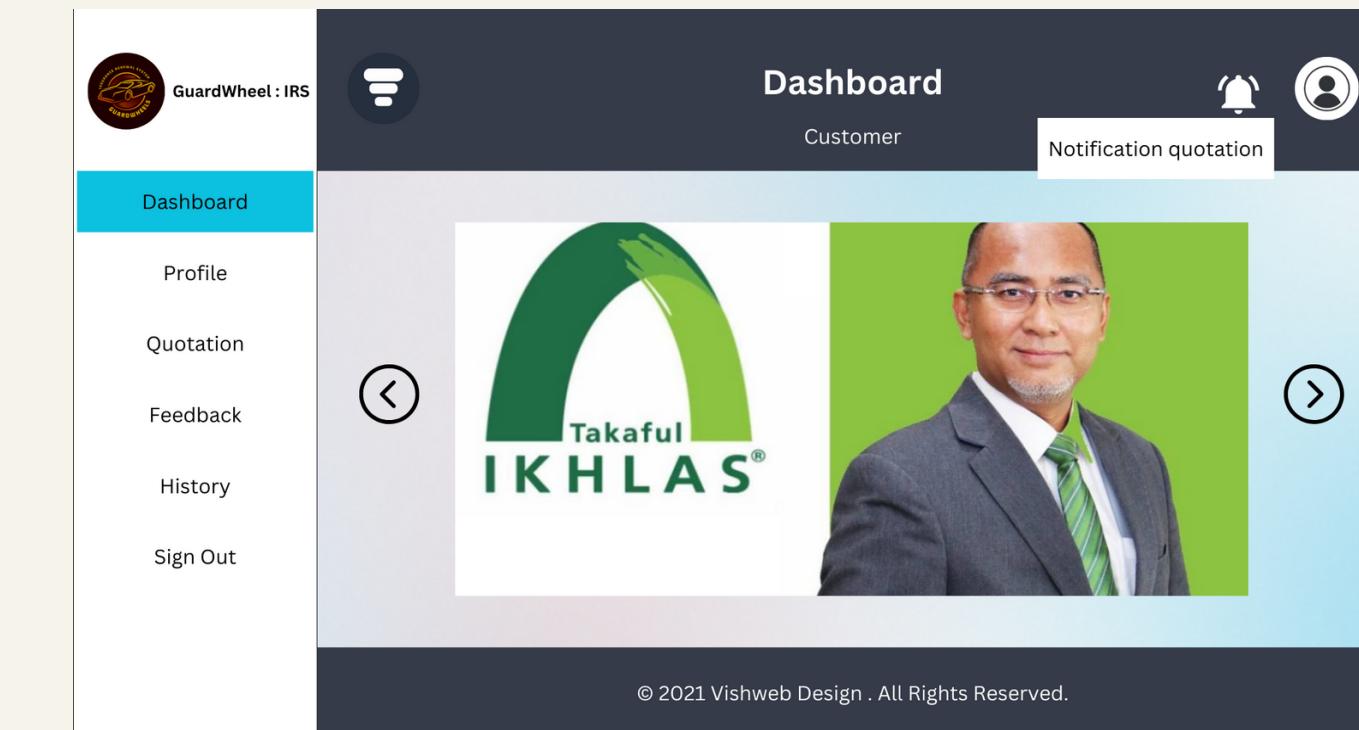
**forgot
password
page**



**customer
dashboard**



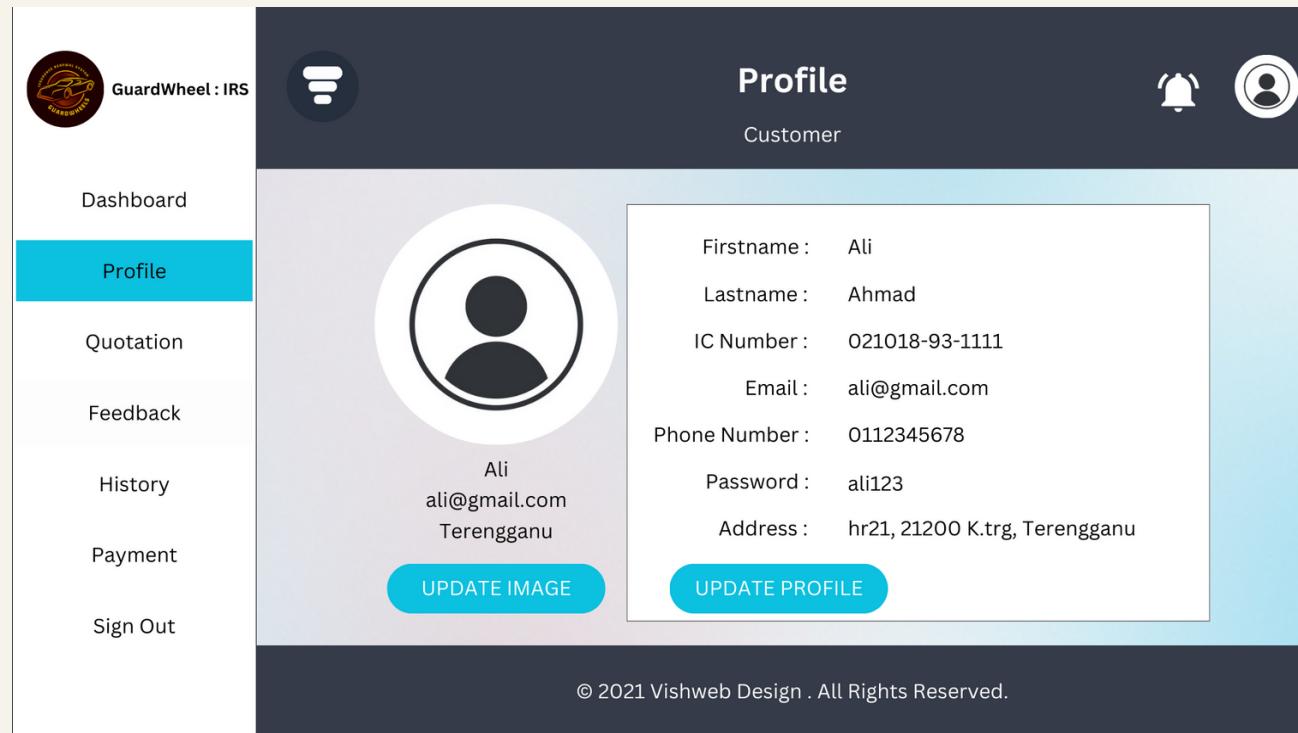
**change
password
page**



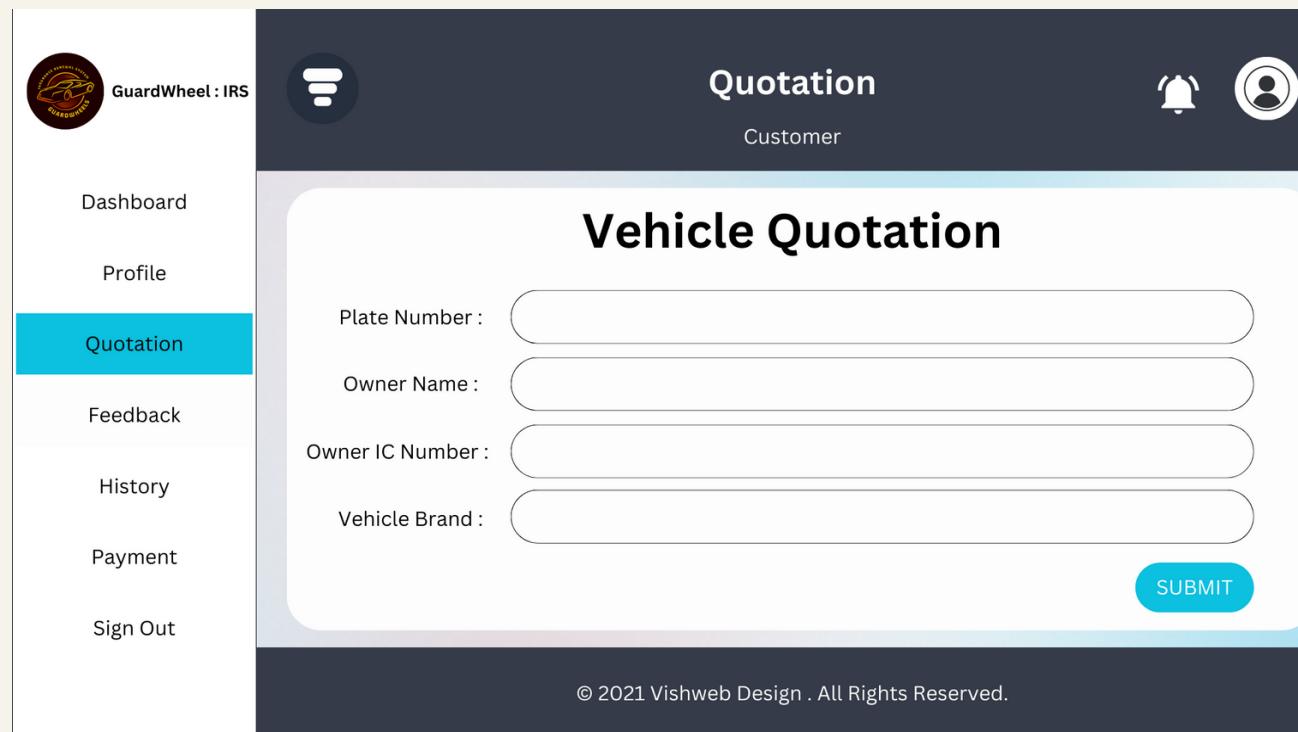
**customer
notification**

INTERFACE

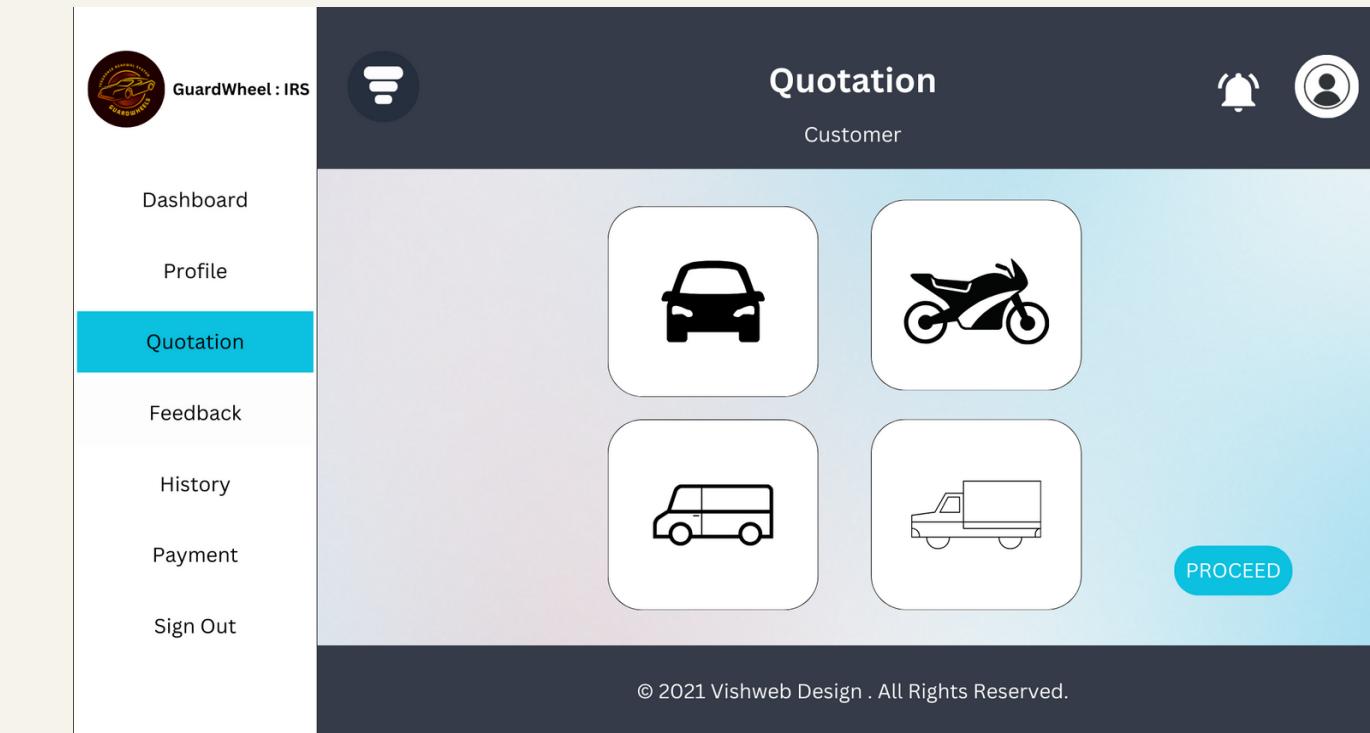
customer
profile



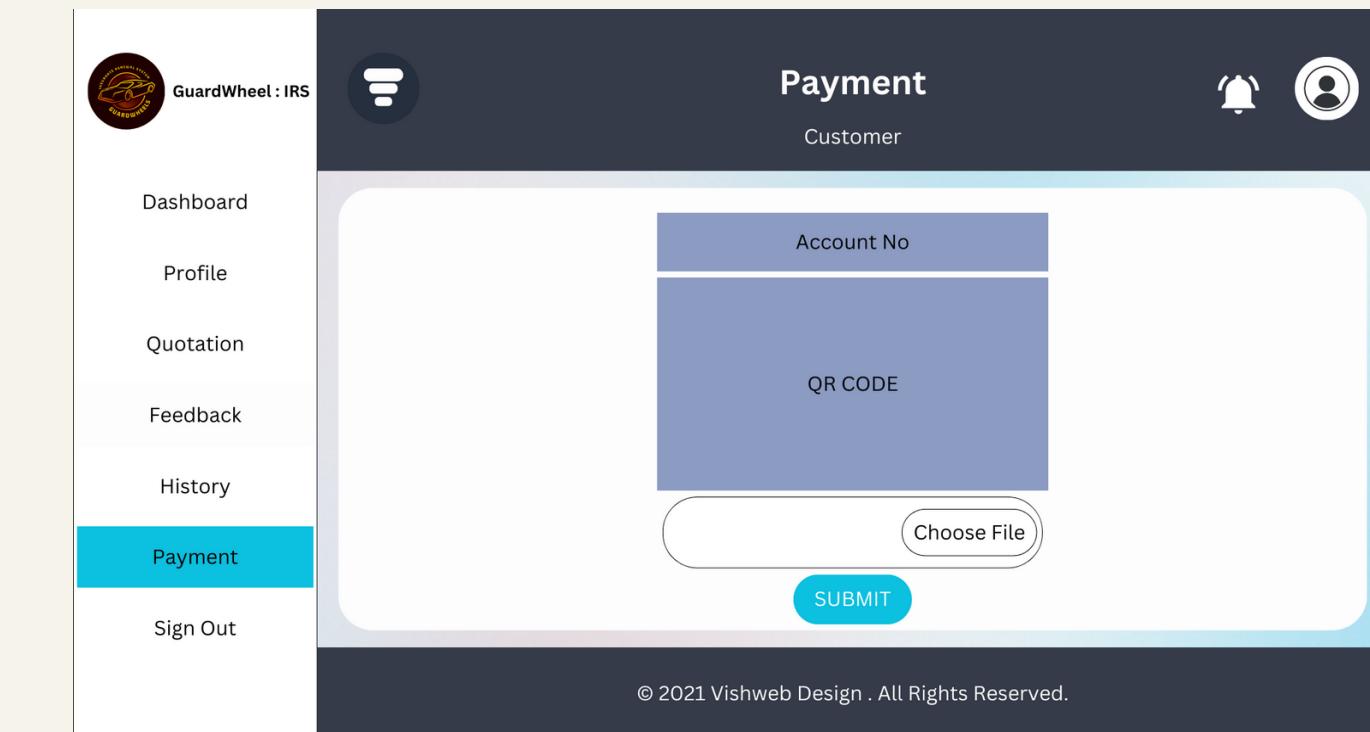
quotation
form



quotation
page



payment
page



INTERFACE

**feedback
to show**

GuardWheel : IRS

Feedback
Customer

Dashboard
Profile
Quotation
Feedback
History
Payment
Sign Out

To Show Feedback

Ali ali@gmail.com

★★★★★

Content

SUBMIT

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GuardWheel : IRS

Feedback
Customer

Dashboard
Profile
Quotation
Feedback
History
Payment
Sign Out

To Company Feedback

Ali ali@gmail.com

First time using this website?
 Yes
 No

Content

SUBMIT

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**customer
history**

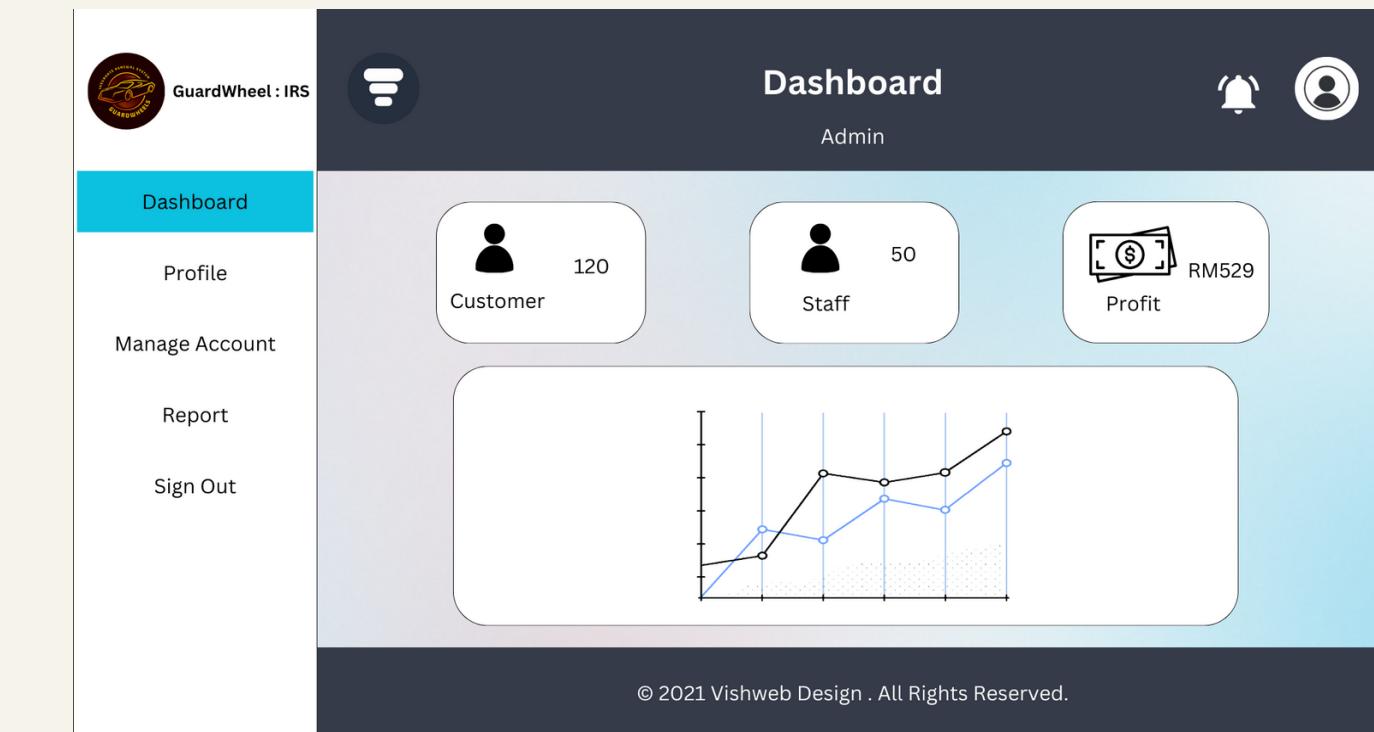
GuardWheel : IRS

History
Customer

Dashboard
Profile
Quotation
Feedback
History
Payment
Sign Out

Number	Owner Name	Owner IC Number	Plate Number	Insurance Type	Price
1	Ali Ahmad	021018-93-1111	TAA1234	Comprehensive	RM529

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**feedback
to
company**

**admin
dashboard**

INTERFACE

admin
profile

Profile

Admin

GuardWheel : IRS

Dashboard

Profile (selected)

Manage Account

Report

Sign Out

Firstname : Adli

Lastname : Yong

IC Number : 021018-93-1111

Email : adli@gmail.com

Phone Number : 0112345678

Password : adli123

Address : hr21, 21200 K.trg, Terengganu

UPDATE IMAGE

UPDATE PROFILE

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Manage Account

Admin

GuardWheel : IRS

Dashboard

Profile

Manage Account (selected)

Report

Sign Out

Manage Employee

Add Employee

Firstname	Lastname	Email	Phone	IC Number	Action
Syazwan	Rosdi	syaz@gmail.com	0172635263	02101911067	

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add staff

Manage Account

Admin

GuardWheel : IRS

Dashboard

Profile

Manage Account (selected)

Report

Sign Out

Add Employee

Firstname :

Lastname :

Email :

Password :

ADD

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Report

Admin

GuardWheel : IRS

Dashboard

Profile

Manage Account

Report (selected)

Sign Out

Report Type :

Report Name :

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manage
staff

report
page

INTERFACE

report list

Report
Admin

Report List

Report Name	Type	Date	Time	Action
January Sales	Monthly	11/1/2024	11.00AM	

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manager profile

Profile
Manager

Adli
adli@gmail.com
Terengganu

Firstname : Adli
Lastname : Yong
IC Number : 021018-93-1111
Email : adli@gmail.com
Phone Number : 0112345678
Password : adli123
Address : hr21, 21200 K.trg, Terengganu

UPDATE IMAGE **UPDATE PROFILE**

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manager dashboard

Dashboard
Manager

Customer 120 **Staff** 50 **Profit** RM529

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feedback list

Manage Feedback
Manager

Feedback List

Name	Email	Content	Date	Time	Action
Syazwan	Rosdi	good	1/1/2024	11.00AM	

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INTERFACE

Feedback

Manage Payment
Manager

Payment List

Name	Plate Number	Vehicle Type	Insurance Type	Price	Action
Syazwan	Rosdi	good	1/1/2024	11.00AM	Approve Reject

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Customer Notify
Manager

Month :

Customer List

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Feedback

Dashboard
Staff

Customer 120
Staff 50
Profit RM529

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Profile
Staff

Adli
adli@gmail.com
Terengganu

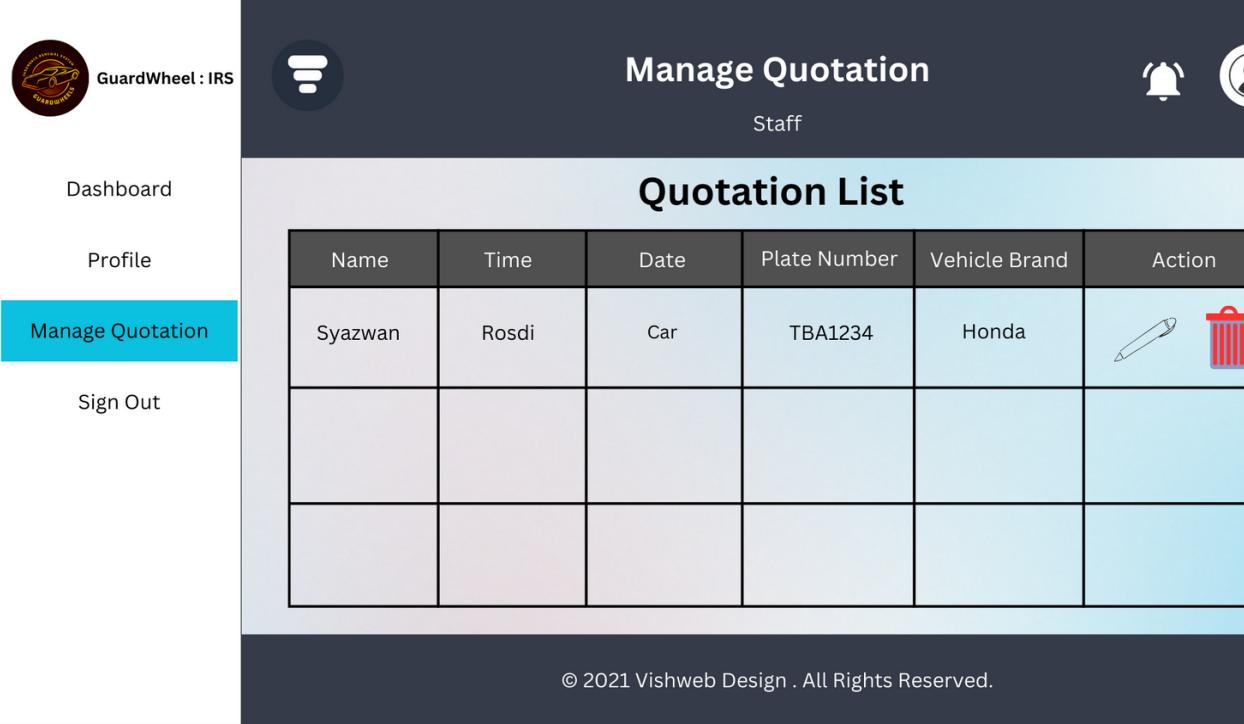
Firstname : Adli
Lastname : Yong
IC Number : 021018-93-1111
Email : adli@gmail.com
Phone Number : 0112345678
Password : adli123
Address : hr21, 21200 K.trg, Terengganu

[UPDATE IMAGE](#) [UPDATE PROFILE](#)

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Feedback

INTERFACE



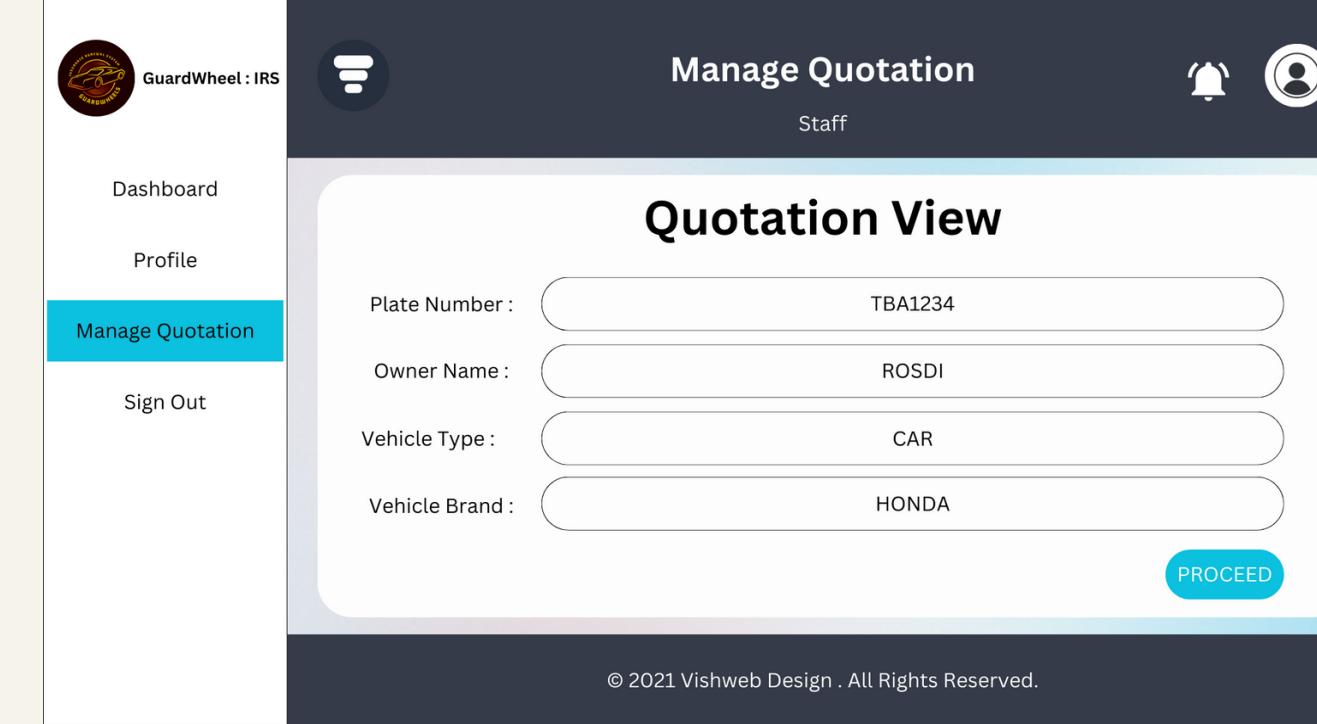
Manage Quotation

Staff

Quotation List

Name	Time	Date	Plate Number	Vehicle Brand	Action
Syazwan	Rosdi	Car	TBA1234	Honda	 

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Manage Quotation

Staff

Quotation View

Plate Number : TBA1234

Owner Name : ROSDI

Vehicle Type : CAR

Vehicle Brand : HONDA

PROCEED

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UMT | 2024

THANK YOU

Presented By : Ihsanuddin Adli