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Bangladesh University of Business and Technology

Department of Computer Science and Engineering

Software Engineering Lab (CSE 328)

Report On: Real-Estate ERP System with Multi Agency Integration

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1 Overview of the system

1.1 Introduction

A real estate ERP (Enterprise Resource Planning) system with a multi-agency system is a comprehensive software solution designed specifically for the real estate industry. This system allows multiple agencies to manage their operations and share data on a single platform, making it easier to collaborate and increase efficiency.

The multi-agency system allows different real estate agencies to operate independently while still sharing a common database. This means that each agency can have its own data, customers, and transactions, while still benefiting from the shared infrastructure.

1.2 Problem Statement

The real estate industry is highly competitive, and real estate agencies need to be efficient and effective in their operations to succeed. However, managing properties, customers, transactions, and commissions can be challenging, especially for multi-agency real estate businesses.

- Lack of standardization
- Complex communication structures.
- Reporting and analytics time delay.
- Integration with other system is challenging if the system are not compatible.

1.3 Requirement Specification

- Multi-agency support.
- Plot management.
- Customer management.
- Transaction management.
- Reporting and analytics.
- Customization.
- Integration.
- Security.
- User-friendly interface.
- Scalability.

1.4 Technology Used

- Laravel (PHP Framework)
- Vue Js (JS Framework)
- Database: MySQL.
- Code Editor: VS Code
- Operating System: Windows
- Version Control By: GitHub

1.5 System Requirement and Specification

- Hardware requirements: The system would require servers with sufficient processing power, memory, and storage capacity to handle multiple agencies, properties, customers, and transactions.
- Software requirements: The system would require an operating system, database management system, web server, and other software components to support its functionality.
- User authentication and access control: The system would need to authenticate users and control their access to data and functionality based on their role and permission level.
- Customization and configuration: The system would need to be configurable and customizable to meet the unique needs of each agency, including custom fields, workflows, and reporting tools.
- Reporting and analytics: The system should provide real-time reporting and analytics, enabling agencies to make informed decisions and improve their performance.
- Security: The system should have robust security features, including user authentication, data encryption, and backup and recovery.
- User-friendly interface: The system should have a user-friendly interface that is easy to navigate and use, even for non-technical users.

2 Getting Started

2.1 Login Page

The diagram illustrates the login module. On the left, a dark-themed login page offers two options: "Login as Admin" (with a user icon) and "Login as Agency" (with an agency icon). Arrows labeled "Admin Login" and "Agency Login" point to the respective login forms on the right. Both forms are titled "EstateERP" and include a "Sign in to start your session" prompt. The "Admin Login" form has fields for "Email" (pre-filled with "admin@example.com") and "Password", a "Remember Me" checkbox, and a "Sign In" button. The "Agency Login" form has fields for "Email", "Password", and a dropdown menu for "select your agency" with options "Pushpodhara (AG-01)" and "Maryland (AG-02)".

Fig: 1 Login Module

2.2 User Profile

The screenshot shows the "User Profile Update Module". At the top left is a blue "Update" button. The form contains several input fields: "Email" (pre-filled with "Admin"), "Mobile No" (pre-filled with "01712923270"), "New Password*" (pre-filled with "New Password"), "Old Password*" (pre-filled with "Old Password"), "Full Address" (pre-filled with "Bizoy nagor, Dhaka"), "Full User Name" (pre-filled with "PUSHPODHARA ADMIN"), "Alternate Email" (pre-filled with "admin@pushpodhara.com"), and "Confirm New Password*" (pre-filled with "Confirm New Password").

Fig: 2 Profile Update Module

2.3 Admin Panel

2.3.1 Dashboard

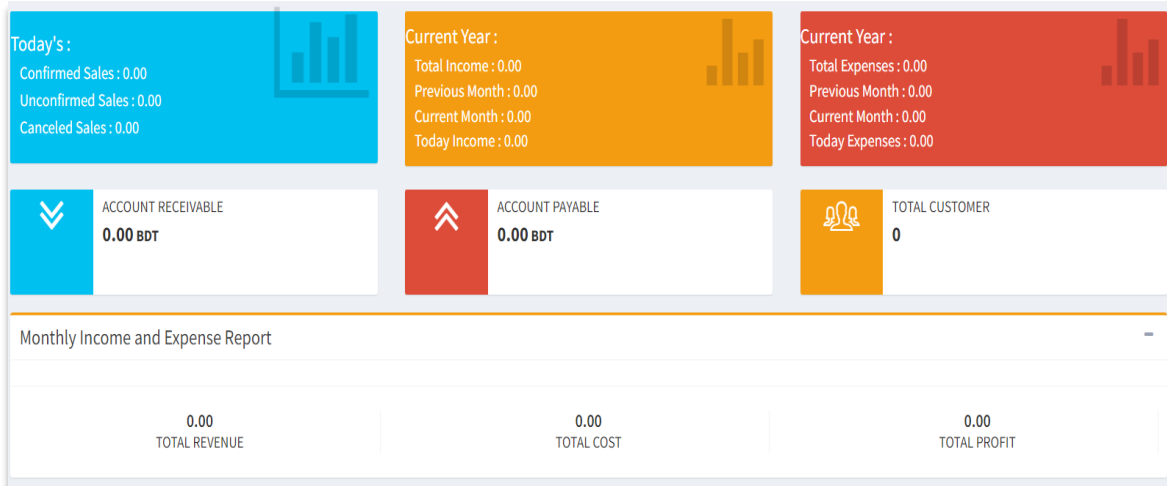


Fig: 3 Dashboard

2.3.2 Manage Agency and Agency User

The image shows two forms for managing agencies and users. The first form is 'Add Agency' and the second is 'Add New Agency User'.

Add Agency Form:

- Agency Code: It will be created automatically
- Name: Agent name
- Phone:
- Email:
- Licence No:
- Address:
- Buttons: Save, Close

Add New Agency User Form:

- Name: User Name
- Email: admin@example.com
- Password:
- Mobile: 01XXXXXXXX
- Assign user role:
- Agency (Chose agency for this user): lukinutytu@mailinator.com (AG-01)
- Role (Chose role for this user that he contributes to this selected agency): Agent
- Buttons: Save, Close

Fig: 4

2.3.3 Manage Plots

Add Plot

Plot ID

It will be creayed automatically

Sector *

2

Road *

4

Plot Type*

Commercial

Position*

South

Cost*

315

Project *

kamarkandi

Block *

a

Plot No *

4/a

Side*

N

Katha*

9

Sale Price*

263

Save

Close

Plots List

Search by plot-id or project or sector or block or road or plot

+ Add New

#	Plot Id	Project	Sector	Block	Road	Plot	Price	Status	Action
1	P-0001	kamarkandi	2	a	4	4/a	263	Active	<div><div></div><div></div><div></div></div>

Showing 1 to 1 of 1 entries

Fig: 5 Manage Plot

2.3.4 RBAC (Role based access control)

[Module Users](#)

Role *

 Enter role name

Description

Role For *

- Admin

Permissions

☐ All

Module Permissions

- ☐ Agency
 - ☐ Manage_Agency
 - ☐ Addl_Agency
 - ☐ Editl_Agency
 - ☐ Delete_Agency
 - ☐ Status_Agency
- ☐ Manage_Agency_User
 - ☐ Addl_Agency_User
 - ☐ Editl_Agency_User
 - ☐ Delete_Agency_User
 - ☐ Status_Agency_User

Dashboard

- ☐ PIOT
 - ☐ Manage_Plot
 - ☐ Addl_Plot
 - ☐ Editl_Plot
 - ☐ Deletel_Plot
 - ☐ Status_Plot
 - ☐ Sold Plot List
 - ☐ View_List
- ☐ REBAC
 - ☐ Manage_Role
 - ☐ Addl_Role
 - ☐ Editl_Role
 - ☐ Deletel_Role
 - ☐ Status_Role

Fig: 6 RBAC

2.3.5 Report (Date wise sale report)

Datewise Sales Report

Clear

Show Report

From

03/03/2023

To

03/03/2023

Agency

NOORIN CORPORATION

Sales Reports / Datewise Sales / Datewise Sales Report Print

TISKULE PROPERTIES LIMITED
Paramount Tower, 80/4 Siddeshwari Circular Road (5th Floor), Mallbag Moor, Shantinagar, Dhaka-1217
Date Wise Sales Report
From 01-11-2022 to 03-03-2023

Agency Name: NOORIN CORPORATION

SL	Booking Date	Customer ID	Customer Name	Block	Plot	Road	Sector	Size Katha	Plot Type	Booking Amount	Salesman
1	13-11-2022	C-04189	Muhammad Abdul Latif Akanda and Gong	L	18	60w24	2	10	Residential	100,000.00	Md Hasebul Haque
2	18-11-2022	C-04222	Mukta	A	6	63	2	5	Residential	100,000.00	Md Shadkur Rahman
3	23-11-2022	C-04256	Md Reazul Islam	C	8	92	2	3	Residential	60,000.00	Md Hasebul Haque
4	27-11-2022	C-04268	Md Abul Kashem	A	28	61	2	5	Residential	100,000.00	Mohammad Julfikar Ali
5	01-12-2022	C-04343	MD. Aijar Ali	A	14	61	2	5	Residential	100,000.00	Mohammad Julfikar Ali
6	03-12-2022	C-04345	S M Shamim Alam	C	14	12	1	5	Residential	100,000.00	Farida Akhtar
7	03-12-2022	C-04354	Askander Khan and Md Sekander Ali	A	30	64	2	5	Residential	100,000.00	Md Hasebul Haque
8	04-12-2022	C-04357	Md. Hasibul Hoque and Rezaul Karim Rakib	F	31	39	1	5	Residential	100,000.00	Mohammad Julfikar Ali
9	05-12-2022	C-04364	Muksudur Rahaman and Shahela Parveen	C	12	12	1	5	Residential	100,000.00	Md Hasebul Haque
10	06-12-2022	C-04367	Syeda Nasrin Suraiya	C	53	15	1	5	Residential	0.00	Md. Maksudur Rahman
11	11-12-2022	C-04387	Khanjahan Ali (R) Tower	D	24	100w01	1	10	Commercial	0.00	Md Hasebul Haque
12	14-12-2022	C-04406	Mohammad Sharif Uddin	C	79	100w01	1	10	Commercial	200,000.00	Md Solayman Mamun
13	15-12-2022	C-04407	Muhammad Abdullah Al Mabud and Mahmuda Haque	C	50	14	1	5	Residential	0.00	Md. Maksudur Rahman

Fig: 7 Report (Date wise)

2.3.6 Manage Admin User

Add User

User ID

It will be creayed automatically

User Name *

admin@example.com

Email *

Email

Password *

.....

Mobile *

01XXXXXXXXXX



Assign user role

Role Permission

--select--

Save

Close

User List Add New						
#	User Name	Email	Mobile	Role	Status	Action
1	Admin	admin@example.com	01679822086	Admin	Active	 

Showing 1 to 1 of 1 entries

Fig: 8 Admin User

2.4. Agency Panel

2.4.1 Manage Salesman

Add Salesman
×

Salesman Code
It will be creayed automatic

Name*
Agent name



Phone *

Email

NID/PP/BIRTH *

Address

Save Close

User List Add New						
#	User Name	Email	Mobile	Role	Status	Action
1	Admin	admin@example.com	01679822086	Admin	Active	 

Showing 1 to 1 of 1 entries

Fig: 9 Manage Salesman

2.4.2 Manage Sales

Create New Sale

Customer Info **Plot Info** Others Customer Info Nominee Info

Customer Info

Customer Code
It will be created automatically

Name* Father Name
Enter customer name

Mother Name Spouse Name

Present Address Permanent Address

Occupation NID/PP/Birth
--select--

District City
--select--

Contact Phone*

Submit Clear

Other Customer Info

Name* Father Name
Oprah Rivas Dora Buck

Mother Name Spouse Name
Lucian Emerson Teegan Keith

Present Address Permanent Address
Ratione quia nisi qu Cum persiciatis ul

Occupation NID/PP/Birth
Teacher Devin Booker

District City
--select--

Contact Phone*
Wilma Cooke 01833255734

Submit Clear

Other customer list

#	Plot Id	Project	Sector	Block	Road	Plot	Price	Status	Action

Plot Info

Sale Date* Plot Code*
mm/dd/yyyy

Plot Description

Rate* (Per Katha) Katha Total Amount

Side Position Salesman
--select--

Installment Details

Installment Type* Next Installment Start Date* Total Installment*
(Select type which you want to pay) mm/dd/yyyy 0

Installment One Time

Submit Clear

Plot Lists

#	Plot Id	Project	Sector	Block	Road	Plot	Price	Status	Action

Nominee Info

Nominee Name* Relation
Enter nominee name Enter nominee relation

Father Name Mother Name

Date of birth
mm/dd/yyyy

Present Address Permanent Address

Submit Clear

Nominee list

#	Plot Id	Project	Sector	Block	Road	Plot	Price	Status	Action

Fig: 10 Manage Sale

2.4.3 Report (Plot Status Check)

Plot Status Check

Project*

PADMA ECO CITY

Sector

2

Block No

B

Road No

71

Search

Plot Status

(Sold plots are indicated in red, and unsold plots are indicated in green.)
(Click plot to see details.)

1

Size: 5

2

Size: 5

3

Size: 5

5

Size: 5

6

Size: 5

7

Size: 5

8

Size: 5

9

Size: 5

10

Size: 5

11

Size: 5

12

Size: 5

13

Size: 5

14

Size: 5

15

Size: 5

16

Size: 5

17

Size: 5

18

Size: 5

19

Size: 5

21

Size: 5

23

Size: 5

25

Size: 5

27

Size: 5

29

Size: 5

30

Size: 5

31

Size: 5

32

Size: 5

33

Size: 5

34

Size: 5

35

Size: 5

36

Size: 5

Plot Details Information

Project: PADMA ECO CITY

Type: Residential

Plot Information

Sector: 2

Block: B

Plot: 8

Katha: 5

Sales Information

1

Agency Name: Rushda Developers Ltd.

Customer ID: C-03488

Rate: 360000/-

Sales ID: S-03334

Katha: 5

Name: Kamrul Hasan Rashed & Sajia Maher Jabin

Total: 1800000/-

Fig: 11 Report (Plot Status Check)

11

3 Setting Up Database

3.1 Database Table

Table	Action							Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> agencies								1	InnoDB	utf8mb4_unicode_ci	16.0 K1B	-
<input type="checkbox"/> business_settings								0	InnoDB	utf8mb4_unicode_ci	16.0 K1B	-
<input type="checkbox"/> customers								0	InnoDB	utf8mb4_unicode_ci	64.0 K1B	-
<input type="checkbox"/> dropdown_options								10	InnoDB	utf8mb4_unicode_ci	48.0 K1B	-
<input type="checkbox"/> dropdown_types								13	InnoDB	utf8mb4_unicode_ci	64.0 K1B	-
<input type="checkbox"/> failed_jobs								0	InnoDB	utf8mb4_unicode_ci	32.0 K1B	-
<input type="checkbox"/> migrations								18	InnoDB	utf8mb4_unicode_ci	16.0 K1B	-
<input type="checkbox"/> nominees								0	InnoDB	utf8mb4_unicode_ci	96.0 K1B	-
<input type="checkbox"/> password_resets								0	InnoDB	utf8mb4_unicode_ci	32.0 K1B	-
<input type="checkbox"/> permissions								45	InnoDB	utf8mb4_unicode_ci	48.0 K1B	-
<input type="checkbox"/> personal_access_tokens								0	InnoDB	utf8mb4_unicode_ci	48.0 K1B	-
<input type="checkbox"/> plots								1	InnoDB	utf8mb4_unicode_ci	48.0 K1B	-
<input type="checkbox"/> related_customers								0	InnoDB	utf8mb4_unicode_ci	96.0 K1B	-
<input type="checkbox"/> roles								2	InnoDB	utf8mb4_unicode_ci	32.0 K1B	-
<input type="checkbox"/> role_permission								43	InnoDB	utf8mb4_unicode_ci	48.0 K1B	-
<input type="checkbox"/> sales								0	InnoDB	utf8mb4_unicode_ci	112.0 K1B	-
<input type="checkbox"/> salesmans								0	InnoDB	utf8mb4_unicode_ci	16.0 K1B	-
<input type="checkbox"/> users								2	InnoDB	utf8mb4_unicode_ci	32.0 K1B	-
<input type="checkbox"/> users_roles								2	InnoDB	utf8mb4_unicode_ci	48.0 K1B	-
19 tables	Sum							137	InnoDB	utf8_general_ci	912.0 K1B	0 B

Extra options

	id	permission_for	module	sub_module	controll	url	icon	description	created_by	updated_by	created_at	updated_at
<input type="checkbox"/>	1	0 Admin: Others agent id	Dashboard	NULL	NULL	admin home	fas fa-th	Module	NULL	NULL	2023-03-02 17:52:32	NULL
<input type="checkbox"/>	2	0 RBAC	Manage Role	Add_Role	role index	role index	fas fa-user	Feature	NULL	NULL	2023-03-02 17:52:32	NULL
<input type="checkbox"/>	3	0 RBAC	Manage Role	Edit_Role	role index	role index	fas fa-user	Feature	NULL	NULL	2023-03-02 17:52:32	NULL
<input type="checkbox"/>	4	0 RBAC	Manage Role	Delete_Role	role index	role index	fas fa-user	Feature	NULL	NULL	2023-03-02 17:52:32	NULL
<input type="checkbox"/>	5	0 RBAC	Manage Role	Status_Role	role index	role index	fas fa-user	Feature	NULL	NULL	2023-03-02 17:52:32	NULL
<input type="checkbox"/>	6	0 Agency	Manage Agency	Add_Agency	agency index	agency index	fas fa-users	Feature	NULL	NULL	2023-03-02 17:52:32	NULL
<input type="checkbox"/>	7	0 Agency	Manage Agency	Edit_Agency	agency index	agency index	fas fa-users	Feature	NULL	NULL	2023-03-02 17:52:32	NULL

Extra options

	xplotid	ztime	zemail	zetime	xemail	bizid	xplotcode	xdesc	xlongdesc	xconversion	xserialconf	xproject	xsector	xplottype	xblock	xroad	xplot	xside	xposition
<input type="checkbox"/>	1	2022-08-08 15:56:17	system	2022-09-13 11:46:36	Admin	100	P-00001	Project-PADMA ECO CITY, Sector-1, Type-Residential...	PADMA ECO CITY-1-A-19-1	1	None	PADMA ECO CITY	1	Residential	A	19	1		
<input type="checkbox"/>	2	2022-08-08 15:56:17	system	2022-09-13 11:46:36	Admin	100	P-00002	Project-PADMA ECO CITY, Sector-1, Type-Residential...	PADMA ECO CITY-1-A-19-2	1	None	PADMA ECO CITY	1	Residential	A	19	2		
<input type="checkbox"/>	3	2022-08-08 15:56:17	system	2022-09-13 11:46:36	Admin	100	P-00003	Project-PADMA ECO CITY, Sector-1, Type-Residential...	PADMA ECO CITY-1-A-19-3	1	None	PADMA ECO CITY	1	Residential	A	19	3		
<input type="checkbox"/>	4	2022-08-08 15:56:17	system	2022-09-13 11:46:36	Admin	100	P-00004	Project-PADMA ECO CITY, Sector-1, Type-Residential...	PADMA ECO CITY-1-A-19-4	1	None	PADMA ECO CITY	1	Residential	A	19	4		

Console

Fig: 12 Database Table

4 Conclusion

The Real Estate Management System is an essential tool for real estate businesses to manage their daily operations more efficiently. The system's database design, admin panel, and agency panel make it easy to manage property listings, client information, and financial transactions. Although there are some limitations, future work can be done to improve the system and provide additional benefits to real estate businesses.

5 Reference

We need to take help from some website during we work on this project. We have seen some video tutorials also from some random channels.

Some of the reference website links are given bellow:

- <https://laravel.com>
- <https://www.tutorialspoint.com>
- <https://laracasts.com>
- <https://stackoverflow.com>
- <https://chat.openai.com/chat>