Popcorn zone Report

Final Project for VB.Net Course

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Content:

• Introduction

▪ About the project?

This is the final project for the VB.NET course joined with Mysql.

We should create an application for Video Store.

The purpose of this specification

is to define the requirements and   developments

of the video store application. This application will keep track of employees,

customers and movies in a video store. Your program will allow employees to add

customers to the database, to add movies, to change the status of a movie (from

available to rented), to search for a movie, etc.

- **Analyse**

  ▪ **How you plan on realizing the project?**

  The planning phase is the most critical phase in a project.

  The first step is : Get an understanding of the subject matter

  To know what exactly we need to know.

  We should know What are the main tasks in such a project?

  Then we should find out How do the tasks relate to each other? What

  needs to be done first, second and so on?

  And lastly What tasks are most difficult?

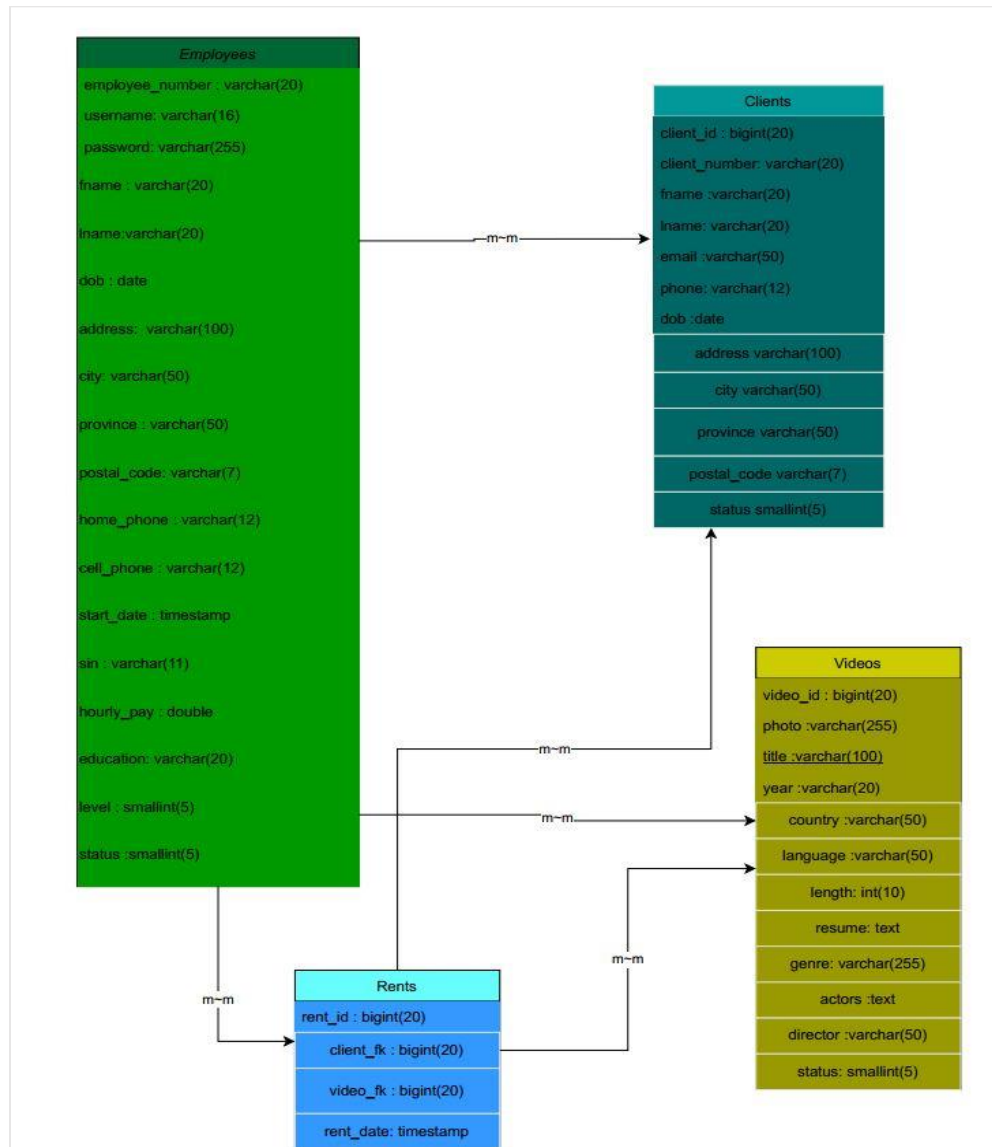This project contains of 4 tables:

Employees

Clients

Videos

Rents

The tables diagram class is below:

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▪ **Database Class Diagram**

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The programming part of the project contains of : forms and classes

It contains of 6 classes:

Class addClient

Class addEmployee

Class addVideo

Class searchMovie

Class searchClient

Class searchEmployee

The tables diagram class is below:

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- **Program Class Diagram**

Class addClient

Public my_client_number As String
Public my_fname As String
Public my_lname As String
Public my_dob As Date
Public my_addr As String
Public my_city As String
Public my_province As String
Public my_postal As String
Public my_phone As String
Public my_status As Integer
Public my_email As String

Public Sub addClientInfo()

Public Sub uppdateClientInfo()

Class addEmployee

Public my_employee_number As String
Public my_username As String
Public my_password As String
Public my_fname As String
Public my_lname As String
Public my_dob As Date
Public my_addr As String
Public my_city As String
Public my_province As String
Public my_postal As String
Public my_homephone As String
Public my_cellphone As String
Public my_startdate As Date
Public my_sin As String
Public my_pay As Double
Public my_education As String
Public my_level As Integer
Public my_status As Integer

Public Sub addEmployeeInfo()

Public Sub uppdateEmployeeInfo()

Class searchMovie

Public Sub listMovie()

Class searchClient

Public my_email As String
Public my_clinetnum As String

Public Sub findClinetByemail()

Public Sub findClinetByname()

Public Sub listclient()

Class addVideo

Public my_video_title As String
Public my_year As String
Public my_country As String
Public my_language As String
Public my_length As Integer
Public my_resume As String
Public my_genre As String
Public my_actors As String
Public my_director As String
Public my_status As Integer
Public my_photo As String

Public Sub addVideoInfo()

Class searchEmployee

Public my_employee_number As String
Public my_username As String
Public my_password As String
Public my_level As Integer

Public Sub loginEmployee()
Public Sub findEmployeeBynum()
Public Sub dataShow()

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- **Implementation**

  ▪ **How did you manage to realize the project?**

This project consists of 4 main pages: login page, admin page, employee page and rent and return page.

Login page:

In this page employees will enter their user name which is unique for each employee and password(case sensitive) and login to either admin page based on their level access(admin level access is 4) or employee page.

If the employee's status is 2 , it means he is deactivated and could not log in.

This page also consist of the help part to introduce the application and exit to close the app.

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Admin page:
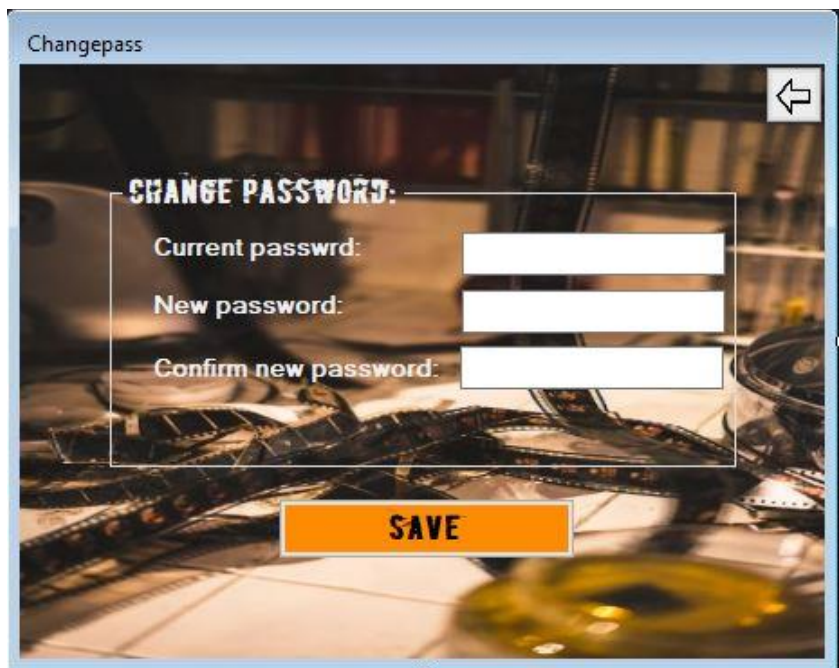
Admin page consists of 5 main parts:

- File.
- Employee
- Video
- Client
- Rent & return

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File:

- **Change the password**: it this section, employees can change the password and then they will be returned to the login page to enter again with the new password but if the do not change anything they will be returned to the admin page or employee page.

Employee:

- List
- Add new employee
- Update employee info
- Search by employee number
- Search by employee sin number
- Delete employee

List:

In this section we could get the employee's list
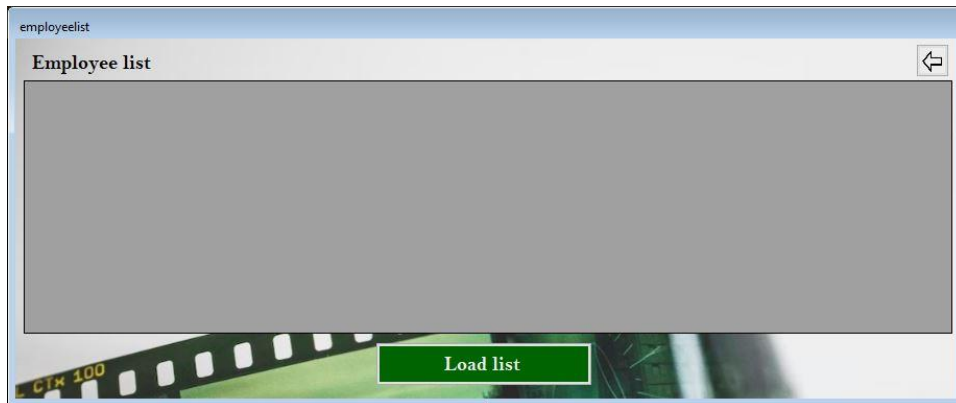
Either active or deactivated employees will be shown here.

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Add new employee:

In this section we can add new employee but there 3 conditions that should not be violated, the sin number, user name and employee number should be unique. Otherwise we could not add the new employee. And also there are some restrictions and validations for other fields, for example we could not enter number in fields like first name or last name but some specific characters are allowed.

Also for date of birth the employee could not be added if he is less than 18 years old.

Postal code has it's own format. And also phone numbers.

Sin number should be 9 digits based on the sin number 'pattern of Canada.

And start date should be from now on.

Password has default value which is "Herzing" .

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Update employee info:

In this section based on the employee number we will find the employee which we want to update the information .

If we enter just part of the employee number and search it , the app will find all employees whose employee number consists of that number and will assign it to the datagridview.

We can click on the exact employee and his info will be assigned to the it's textbox.

Then the update button will be active and after the changes that we want to make, the entries will be validated based on the criteria that was explained in add employee part and

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if user name and employee number and sin number are unique, the information will be updated successfully otherwise we will get the error list to modify and try again.

Search by employee number:

If we choose search by employee number the sin number part will be invisible.

By entering part of the employee number , the app will find the employees which their employee number will start whit that entered number.

Search by employee number:

If we choose search by sin number the employee number part will be invisible.

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By entering part of the sin number , the app will find the employees which their sin number will start whit that entered number.

Delete employee:

By entering just part of the employee number the app will find the employees whose employee number starts with entered number, then by click on the exact employee that we want to delete ,his information will be assigned to the labels. Then we can confirm the information and delete the employee permanently.

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If we press cancel all information will be disappeared and then we can search or choose different employee.

Video:

- List of the movies
- Add new movie
- Update movie info
- Quick search
- Advanced search
- Delete the movie

List of the movies:
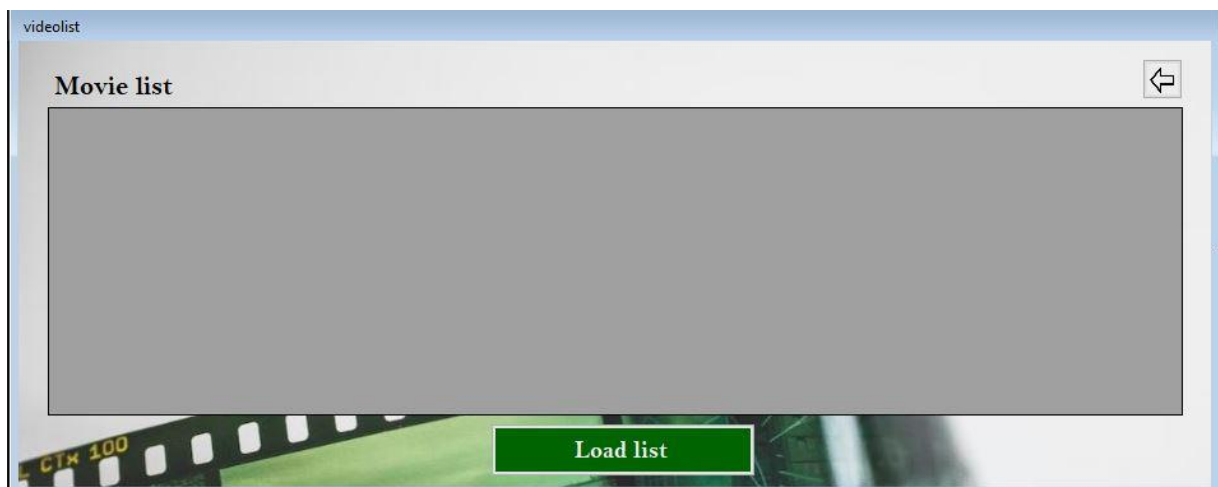
You can see the list of the movies based on the last added ones.

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Add new movie:

Here in this section we can add new movie and sections have their own validations.

For example the photo should have its pattern or we could not enter number in genre part.

The movie will be added if it is new title but if not we will check the release date and if it is different from the other one which is already in DB , the movie will be added.

Otherwise we will get error and could not add the movie. Also All parts should be fill out

Otherwise the error will happen.

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Update movie info:

Here in this section by entering part of the movie title and year, the app will find the movies and will assigned it to the table. By clicking on the exact movie, its information will be assigned to the text boxes to update.

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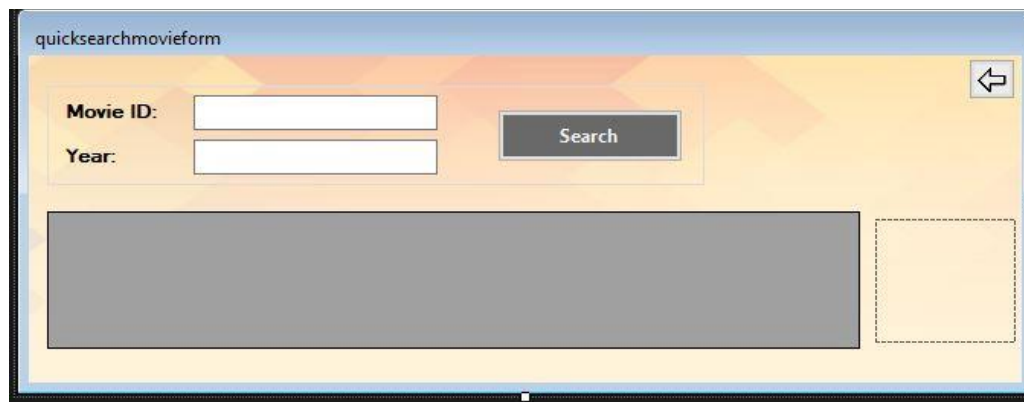
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All parts should be fill out but if not the app will not change anything.

The validations that we did in add movie part still are valid Herer and will be evaluated before any update.

After the update table will be disabled and if we search for new movie it will be enabled.

Quick search:

Here in quick search, by entering the part of the title and year, the app will find all movies whose title and year contains what we entered.

And by clicking on the exact movie that we want it's photo will show up in the picture box next to the table.

Advanced search:
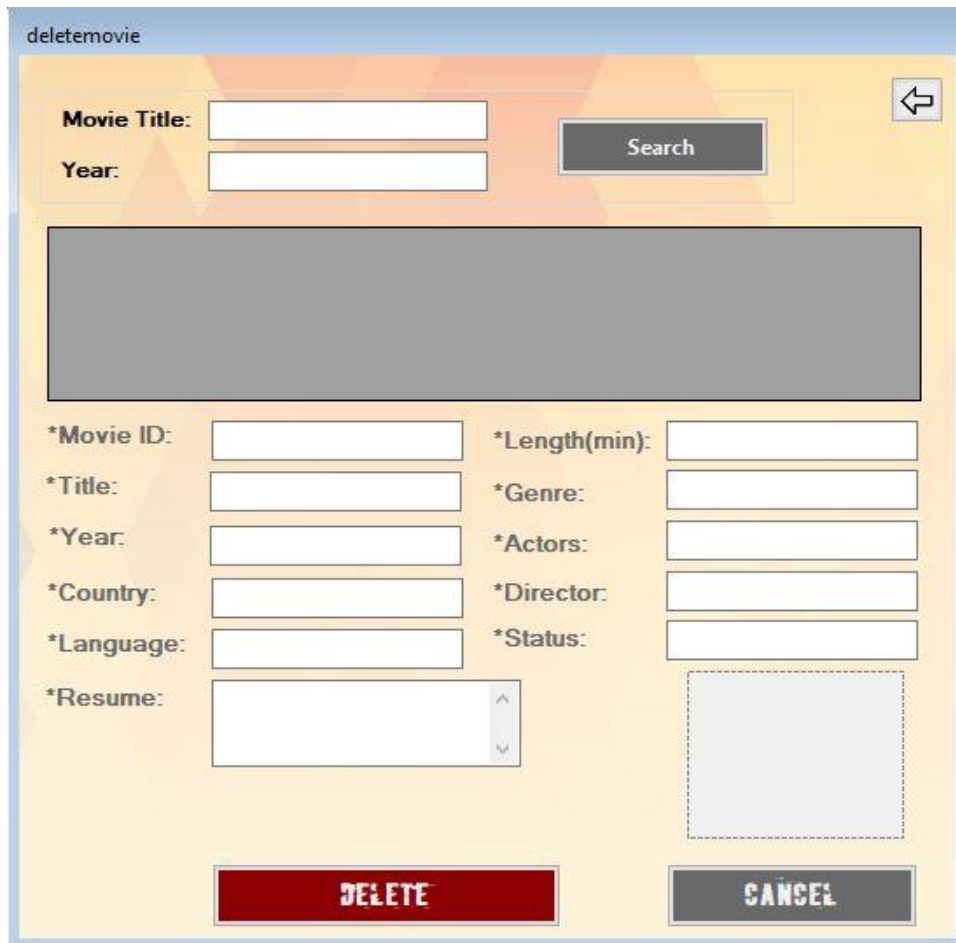
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Here in this section to find the movie , we should fill out all mandatory fields to find the movie, but we can enter part of each field , and app will find all movies that their information consist of the entered information. And by clicking on the exact movie that we want it's photo will show up in the picture box next to the table.

Delete movie:

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Here in this section by entering part of the movie title and year , the app will find all movies with that information and then will assign it to the table.

By clicking on an specific movie , its information will be assigned to the designated labels.

And then we can delete that move if ad only if it is not rented, by renting the movie the status will change from 1 to 2 and here in delete procedure this condition will be checked before deleting.

Otherwise we will get a warning that this movie is rented and you could not delete it now.

And after deleting the table will be disable untill we search for the new movie or cancel everything.

Client:

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- List clients
- Add new client
- Update client info
- Search client by client number
- Search client by email
- Delete
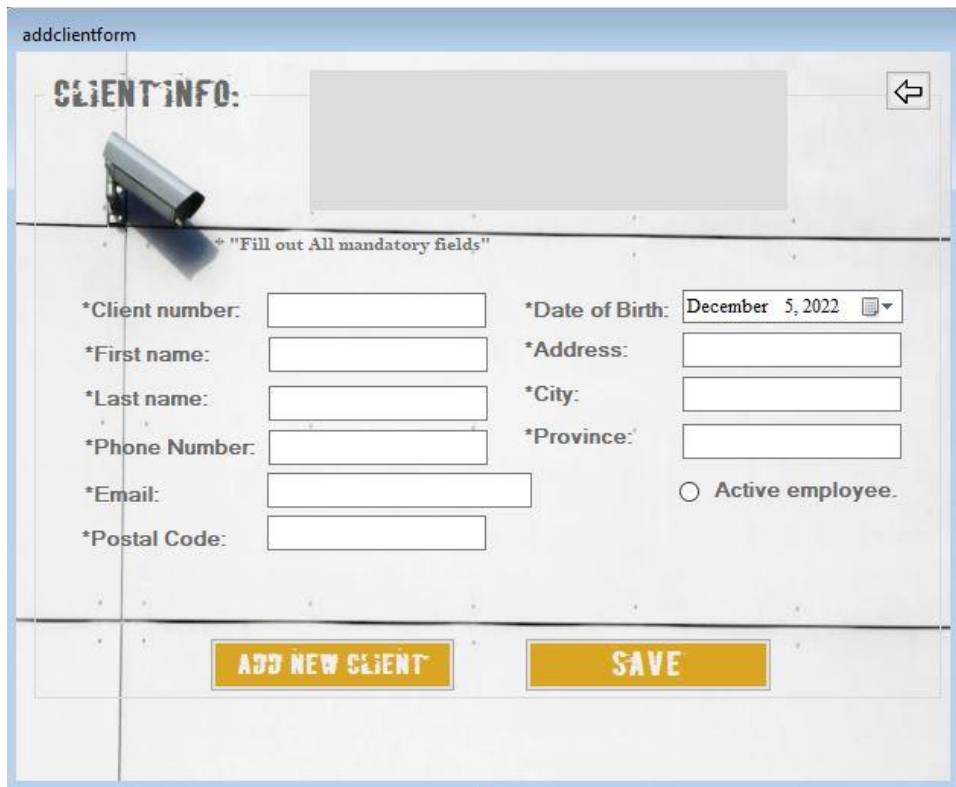
List :
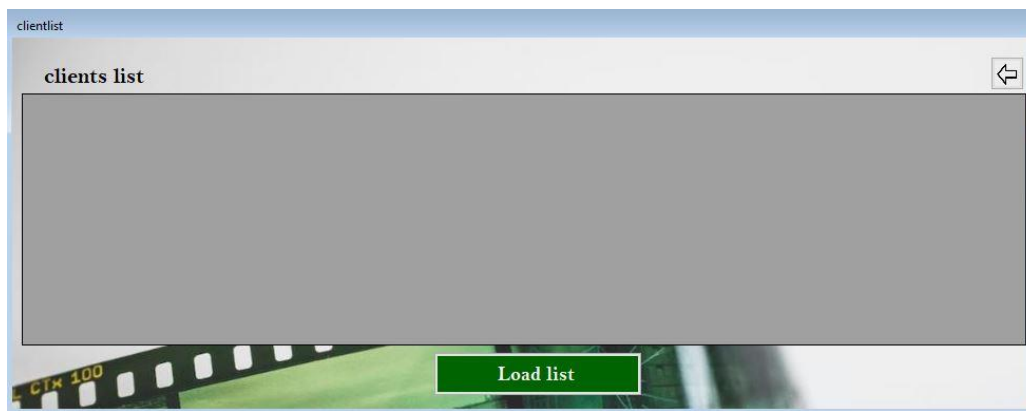
In this section, we can see list of the clients from the last added ones.

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Add new client:

Here in this part we can add new client. The client number and email address should be unique otherwise we could not add that client.

All mandatory fields should be filled out and also they have their validations.

If we put the status of the client inactive, he could not rent movie.

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Update client info:

Here in this section we can update the clients information, by searching the client number
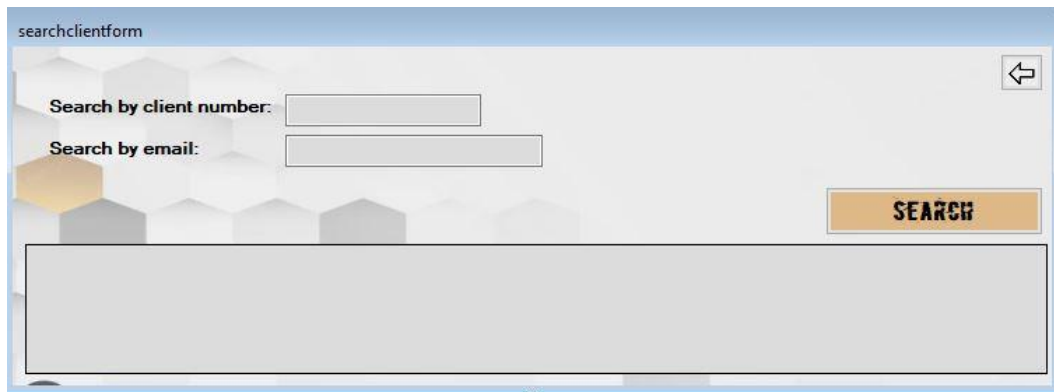
App will assign all clients by that number to the table and we can choose our client and by clicking on his name his information will be assigned to the text boxes.

All validations that we have for adding the client are still in place.

And before adding clients those criteria will be checked.

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Search client by client number:
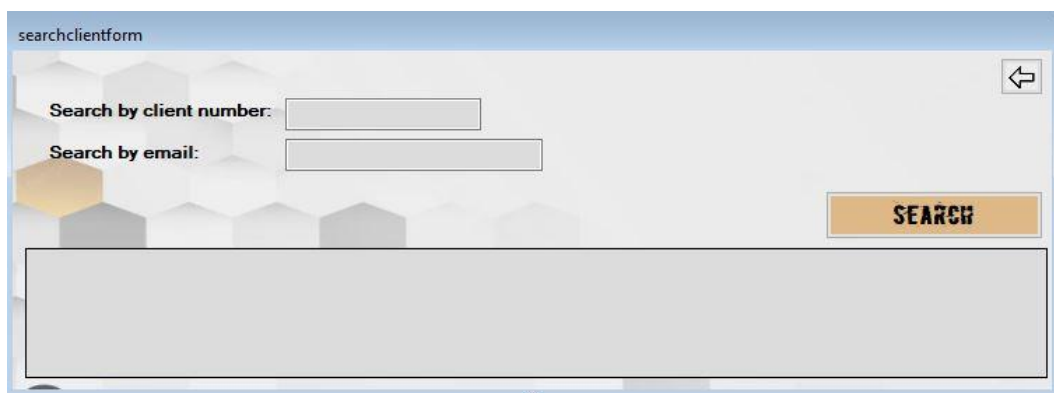
If we choose searching by client number, it will appear and by entering part of the client number, app will find all clients whose number has that part and will assign them to the table.

Search client by email:
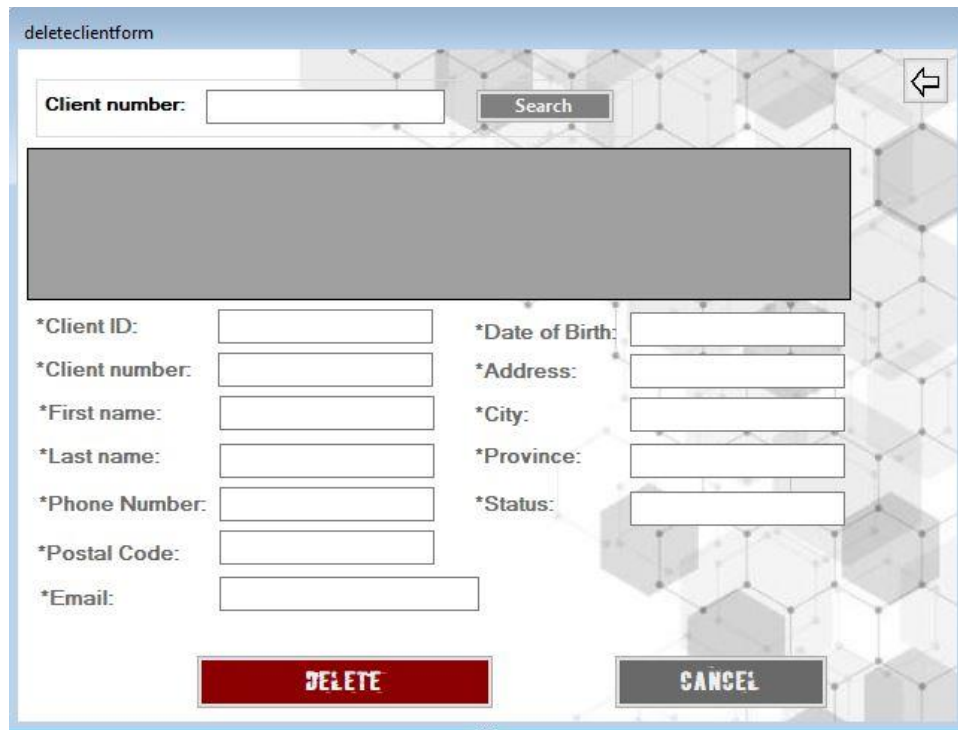
Here we can find the client by their email address.

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Delete:

By entering part of the client number , app will find all clients whose number has that part and will assign it to the table.

By clicking on the clients info, his information will be assigned to the labels.

By pressing delete , we will delete that clients information permanently.

But we should know that if the client has rented a movie we could not delete it unless he returned the movies.

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Employee page:

This page will give access to the employees other than admins, the employees have 3 level of the access which is decided when we want to add the new employee but of course their level of access can be updated.

Low – View, Create
Mid – View, Create, Edit
High – View, Create, Edit, Delete

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Rent & return:

- Rent movie
- Return movie
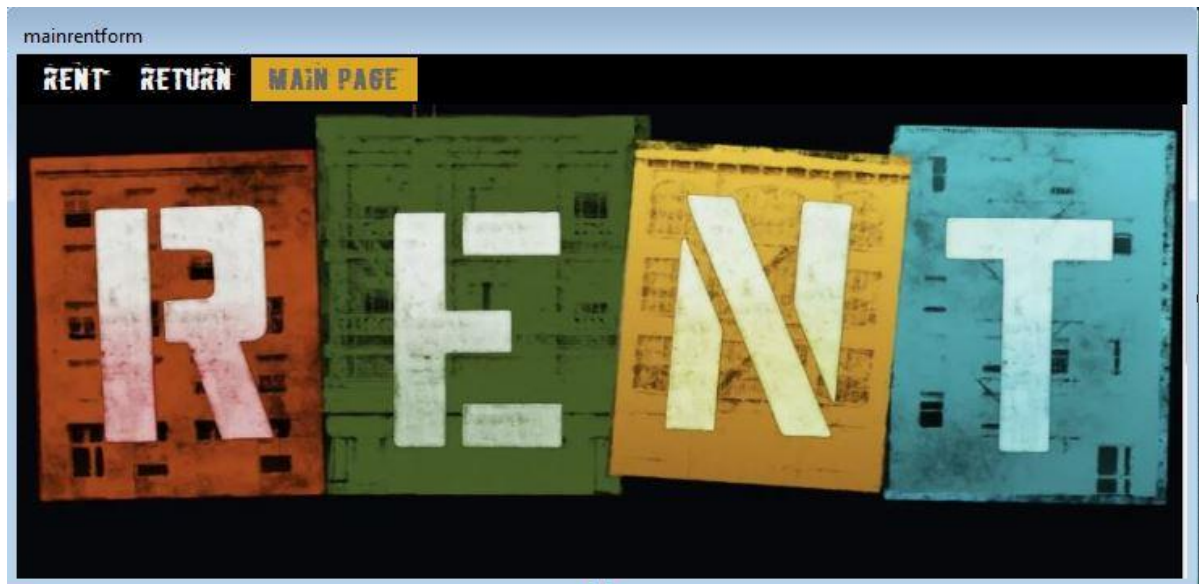
Here in this part we can rent the movie to the clients and they can return the movies.

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Rent:

By entering part of the client's number app will find the clients with that number and by clicking on that specific client that we want , app will get his information and will assign it to the labels.

And then we can find the movies that we want to rent by its movie id, but we should consider that we can rent the movie which is not rented yet , for when we rent the movie its status will change to 2 and if we choose it for rent , app will give us warning that we could not rent it again.

But a client can rent several movies.

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Return:

Here in this section ,by entering the movie id ,app will find the movie with that id and also will check its status to see if it is rented and if yes will assign it to the labels to return otherwise will give us warning.

Database:

Employees table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action		
1	employee_id 🔑	bigint(20)		UNSIGNED	No	None		AUTO_INCREMENT	✏ Change	⊖ Drop	▼ More
2	employee_number	varchar(20)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
3	username	varchar(16)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
4	password	varchar(255)	latin1_general_cs		No	Herzing			✏ Change	⊖ Drop	▼ More
5	fname	varchar(20)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
6	lname	varchar(20)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
7	dob	date			No	None			✏ Change	⊖ Drop	▼ More
8	address	varchar(100)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
9	city	varchar(50)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
10	province	varchar(50)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
11	postal_code	varchar(7)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
12	home_phone	varchar(12)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
13	cell_phone	varchar(12)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
14	start_date	timestamp			No	CURRENT_TIMESTAMP			✏ Change	⊖ Drop	▼ More
15	sin	varchar(11)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
16	hourly_pay	double		UNSIGNED	No	None			✏ Change	⊖ Drop	▼ More
17	education	varchar(20)	latin1_swedish_ci		No	None			✏ Change	⊖ Drop	▼ More
18	level	smallint(5)		UNSIGNED	No	None			✏ Change	⊖ Drop	▼ More
19	status	smallint(5)		UNSIGNED	No	None			✏ Change	⊖ Drop	▼ More

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Clients table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	client_id 🔑	bigint(20)		UNSIGNED	No	None		AUTO_INCREMENT	🖉 Change ⊖ Drop ▾ More
2	client_number	varchar(20)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
3	fname	varchar(20)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
4	lname	varchar(20)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
5	email	varchar(50)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
6	phone	varchar(12)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
7	dob	date			No	None			🖉 Change ⊖ Drop ▾ More
8	address	varchar(100)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
9	city	varchar(50)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
10	province	varchar(50)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
11	postal_code	varchar(7)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
12	status	smallint(5)		UNSIGNED	No	None			🖉 Change ⊖ Drop ▾ More

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Videos table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	video_id 🔑	bigint(20)		UNSIGNED	No	None		AUTO_INCREMENT	🖉 Change ⊖ Drop ▾ More
2	photo	varchar(255)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
3	title	varchar(100)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
4	year	varchar(20)	latin1_swedish_ci		Yes	NULL			🖉 Change ⊖ Drop ▾ More
5	country	varchar(50)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
6	language	varchar(50)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
7	length	int(10)		UNSIGNED	No	None			🖉 Change ⊖ Drop ▾ More
8	resume	text	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
9	genre	varchar(255)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
10	actors	text	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
11	director	varchar(50)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▾ More
12	status	smallint(5)		UNSIGNED	No	1			🖉 Change ⊖ Drop ▾ More

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Rents table:

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action			
☐	1	rent_id 🔑	bigint(20)		UNSIGNED	No	None		AUTO_INCREMENT	🖉 Change	⊖ Drop	▼ More
☐	2	client_fk 🔑	bigint(20)		UNSIGNED	No	None			🖉 Change	⊖ Drop	▼ More
☐	3	video_fk 🔑	bigint(20)		UNSIGNED	No	None			🖉 Change	⊖ Drop	▼ More
☐	4	rent_date	timestamp			No	CURRENT_TIMESTAMP			🖉 Change	⊖ Drop	▼ More

↑ ☐ Check all   With selected: ▦ Browse   🖉 Change   ⊖ Drop   🔑 Primary   Ⓤ Unique   🗐 Index   🅂 Spatial   🅃 Fulltext

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Goodbye page:
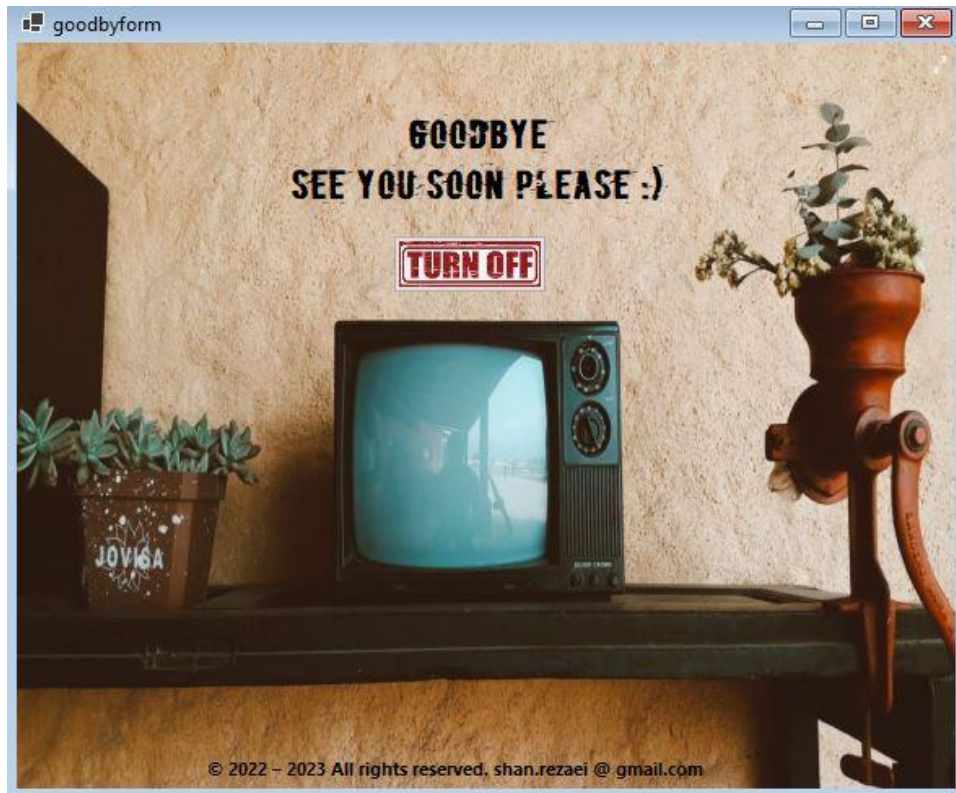
We can exit and close the app.

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• **Discussion**

▪ **What happen throughout the project?**

Through the project, I programmed part of it but then realized that it is better to plan how to   do the project and different parts of it, for it has several parts which have overl ap with to gather and to avoid redoing , we should plane how to program the project.

▪ **Problem encounter, solution?**

During the coding and more during the testing I faced different problems and bugs .one of the most important one was validating different sections in adding or updating different parts, for sometimes the exact validation for one part did not work for the other part.

And also the other problem that I faced was during creating database and connecting it with VB.NET.

I should say I mostly overcame the problems by searching on the websites and trying different approaches.

▪ **Did you manage to finish the project?**

Yes I spent 2 days to find out how many sections it should have and estimation of how long each part will get and finally how much time I can spend to test it and also writing the report.

▪ **What you would have done differently**?

I believe I would spend more time on planning to section the app to proper parts for coding. And also spending more time on testing rather than trying to code it completely. And also I would defiantly start writing the report from the first day of planning to do the project.

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