



# **<BIA Cinema Ticket Database Management System (BIA CT DBMS)>**

## **CME3201 Database Management Systems Final Project Report**

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**Phase 3**

**2021-2022 FALL**

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## 1. Abstract

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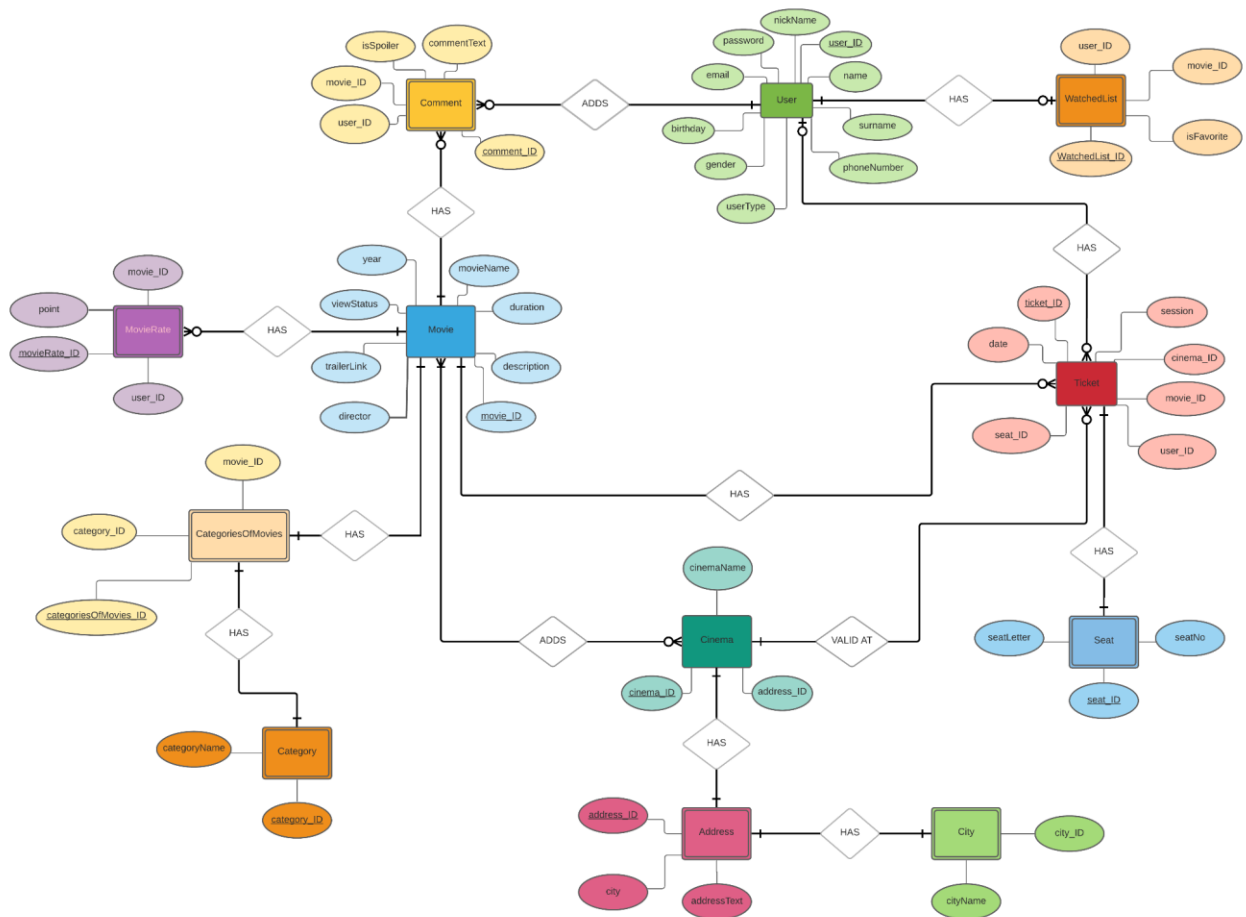
The web application is a cinema ticket database system. Aim of the application is to help users to buy cinema tickets easily and profitably. The web application will be very useful for the ones who love to watch movies and discuss it. Users can see the movies that are shown in each cinema listed by hours. Also, the application helps the user to choose a movie with trailers, limited number of comments and the feature of listing movies in specific categories. The user can create a profile, then will have access to some features of the system such as buying tickets, reading all comments, writing comments and rating movies from 0-10. Users can tick a comment as a spoiler to avoid affecting other users. When the users add the movies they like to the favorites list, the system will recommend some movies which the user may like.

## 2. Completion Report

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BIA CINEMA, which we laid the foundations of in the last quarter of 2021, is a cinema and ticket website that was established in a very short time. It offers convenience to its users with its easy interfaces. BIA CINEMA is also a site that allows users to buy tickets for the movies shown in the show from our available cinemas in current cities. In addition, our user can cancel his ticket whenever she/he wants. Also, the user can view information about the movies she/he likes and has watched before, watch movies in 12 different categories, and get advance information about the movies that will be released. It is a site where users can view the movies they watch the most, and where users can view the most liked movies with their votes. Our admins at BIA CINEMA can give the users registered on our site an admin authority when necessary, as well as terminate the admin role of any of our admins. Apart from this, our admins can view all users and user records can be deleted from the site. Admins have the authority to remove all movies on our site, edit and even add new movies. Admins can view all tickets purchased from our site, as well as make ticket cancellations. BIA CINEMA is a project that takes the vision of growth and development day by day and grows even more. We cannot accomplish a suggestion page based on the movies that the user watched and a chat page about the movies.

### 3. Functional Decomposition



**Figure 3.1** ER Diagram

In this project, MVC has been used and its layers are as follows:

- Models
- Views
- Controllers

### **In Model Layer:**

In order to ensure that the database collections are used in the project, a model has been created for each data. These models are as follows.

#### ❖ Cinema

- Cinema Name
- City
- Address

#### ❖ City

- Movie Name
- Description
- Duration
- View Status
- Trailer Link
- Director
- Year
- Rate

#### ❖ Review

- Comment Text
- Is spoiler
- Movie ID
- User ID
- Nickname
- Rate

#### ❖ Ticket

- Ticket ID
- Cinema Name
- Movie Name
- User Name
- Seat Letter
- Seat No
- Date
- Session
- Card Owner Name
- Card Number
- Card Valid Date
- Card CVV

**❖ User**

- User ID
- Name
- Surname
- Nickname
- gender
- Email
- Phone Number
- Birthday
- Password
- User Type

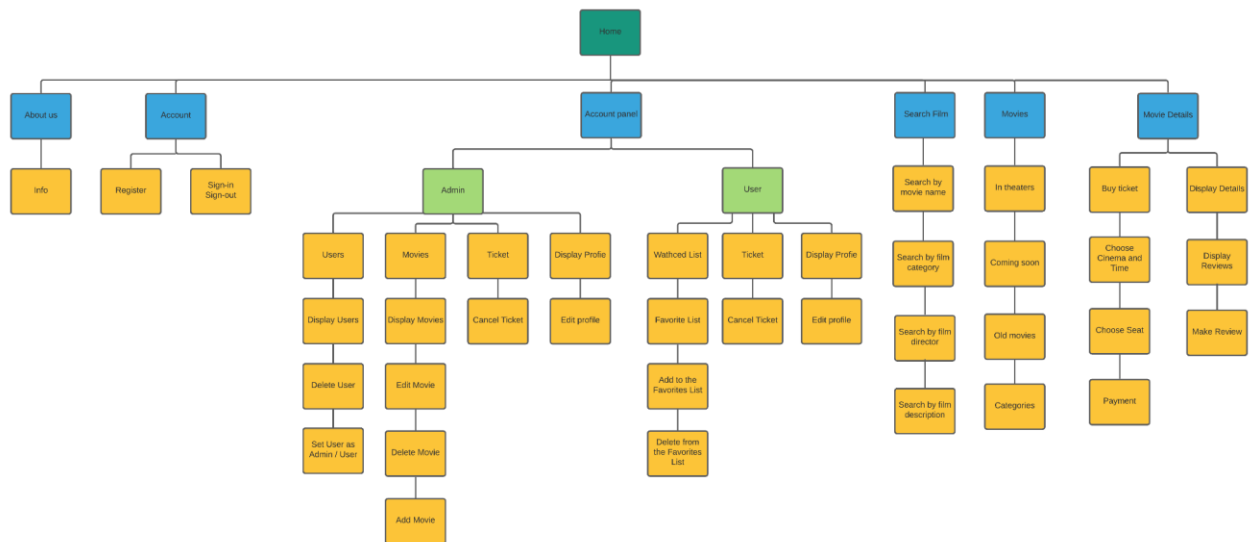
**In Views Layer:**

View is the part that is presented to the user after the communication between the Controller-Model and the requests made by the users to the Controller structure in MVC structures. In other words, it is the part that the user sees on a web page.

**In Controller Layer:**

The relation between backend and frontend is created here. All database read, update and delete operations performed here. For each main model in the project we have a specific controller where all backend operations are performed.

## 4. High Level Organization



**Figure 3.2** Site-map Diagram

This diagram shows us the main pages on the website with their subpages and functionalities. Main pages are the home page, movies page, admin and user account panels and ticket sale pages. Users can see movie details and reviews without registering to the system. Users can buy tickets and review movies by signing and can list the movies they watched previously. Users can list the movies by their categories, view type and search a movie. Admin can list all users, movies and tickets and edit them.



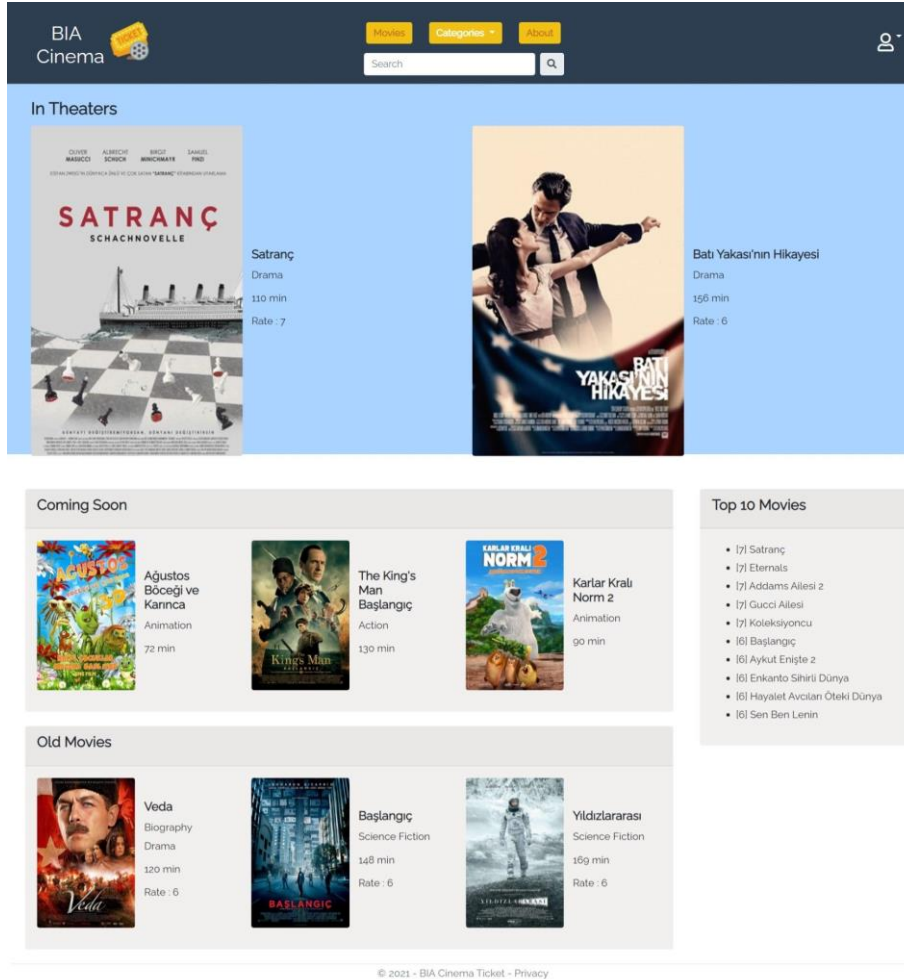
## 5. Clickstreams

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- Register: Necessary inputs are taken from the user and saved into the database.
- Log In: Checks if the email and password user entered is available in the database. If a match is found, the user enters the system.
- Buy Ticket: User chooses cinema, date and session then available seats are listed on screen. Payment screen appears on the screen after the seat selection and process is completed after the payment.
- Manage Movies: List, update, add and delete movies.
- Manage Users: Delete and set user as admin or user.
- Manage Tickets: List and delete tickets.
- Make Review: Users write comments about a movie and rate it.

## 6. Layout-Implementation

This is our main page and movies are listed according to their view status. At the top, navbar has a search bar, some buttons and an account logo. User name appears if user logged in.

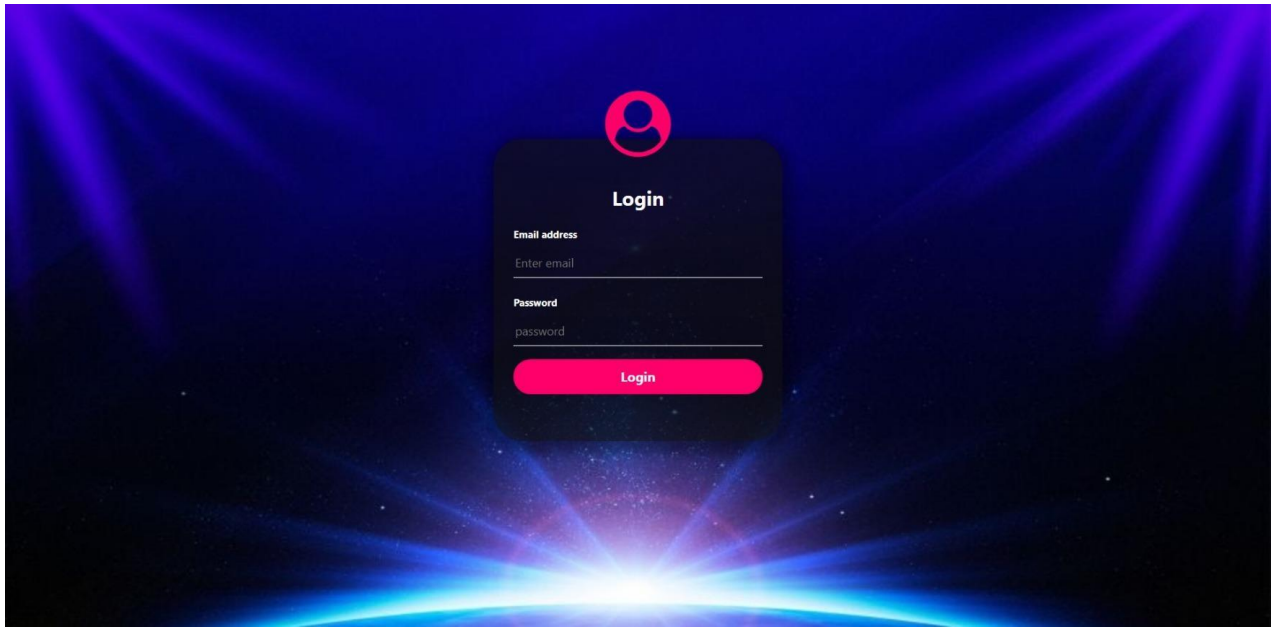


This page shows the movies selected according to the selected category or movie status.

The screenshot displays the BIA Cinema website interface. At the top, there is a navigation bar with the BIA Cinema logo, a search bar, and links for Movies, Categories, and About. Below the navigation bar, there is a row of category buttons: CATEGORIES, Tüm Filmler, Eski Filmler, Vizyonda, Yakında, and The Most Watching. The main content area is titled 'All Movies' and displays a grid of movie posters. Each poster is accompanied by its title, genre, duration, and rating.

Movie Title	Genre	Duration	Rate
Dune Çöl Gezegeni	Action	155 min	6
Satranç	Drama	110 min	7
Batı Yakası'nın Hikayesi	Drama	156 min	6
Sen Ben Lenin	Comedy	86 min	6
Eternals	Action	157 min	7
Hayalet Avcıları Öteki Dünya	Comedy	123 min	6

This page shows the Login page. The user logs in with their information.



Admin can see a list of all users and delete a users.

BIA Cinema

Beyza Gür

Profile

Users

Movies

Tickets

Logout

List Of Users

10 entries per page

Search...

Name	Surname	Nickname	Gender	Email	Phone Number	Birthday	User Type	Delete	Set Admin or User
Daisey	Boothman	dboothman3	Female	dboothman3@europa.eu	2526068361	2000-03-18	User	Delete	Set Admin
Remington	Hadland	rhadland5	Female	rhadland5@chron.com	6058894735	1993-12-22	User	Delete	Set Admin
James	Weal	jweal6	Male	jweal6@un.org	9899175965	1993-01-30	User	Delete	Set Admin
Anica	Di Bernardo	adibernardo7	Male	adibernardo7@cdc.gov	2399220343	1995-03-15	User	Delete	Set Admin
Irma	Carlesi	icarlesi8	Female	icarlesi8@icq.com	5495314831	1997-06-08	User	Delete	Set Admin
Claudian	Mingasson	cmingasson9	Male	cmingasson9@paypal.com	3623762224	2000-01-02	User	Delete	Set Admin
Ketti	Newarte	knewartea	Male	knewartea@bloglovin.com	6611519626	1991-03-14	User	Delete	Set Admin
Minnaminie	Wasbrough	mwasbroughb	Male	mwasbroughb@mtv.com	7119978882	1990-09-15	User	Delete	Set Admin
Kaylee	Fyfe	kfyfec	Female	kfyfec@boston.com	5513643477	1990-09-21	User	Delete	Set Admin
Delcina	Kingh	dkinghd	Female	dkinghd@pcworld.com	4502989580	2000-04-28	User	Delete	Set Admin

Showing 1 to 10 of 99 entries

1

2

3

4

5

6

7

...

10

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Admin can also remove users from this page.

BIA Cinema

Beyza Gür

Profile

Users

Movies

Tickets

Logout

List Of Tickets

10 entries per page

Search...

ID	Name	Surname	Movie	Cinema	Seat Letter	Seat No	Session	Date	Card Owner Name	Card Number	Price	
2	Gwendolen	Gilfether	Hayalet Avcları Öteki Dünya	Optimum Cinemaximum	A	11	15:00	2021-06-02	Gabriello Thonason	4398061067247423	20	Remove
3	Elsie	Caustick	Eternals	Konak Pier Cinemaximum	B	7	12:00	2021-11-23	Mariana Ironside	7848982283204245	20	Remove
4	Trumann	McPheat	Hayalet Avcları Öteki Dünya	Mavibahçe Cinemaximum	D	8	15:00	2021-01-19	Leslie Metzgi	3537516271451083	20	Remove
6	Jerrie	Hatrey	Dune Çöl Gezegeni	Ankara Gökse Sinemax	B	11	15:00	2021-12-06	Marnia Kobieriecki	0865266702070922	20	Remove
7	Cyrus	Jerdein	Enkanto Sihirli Dünya	Ankara Gökse Sinemax	F	9	15:00	2021-05-23	Hope Caesar	5807217308792476	20	Remove
8	Caprice	Badsey	Addams Ailesi 2	Ankara Cinemaximum (ANKAmall)	E	4	12:00	2021-07-27	Oates Springthorpe	5711067743120040	20	Remove
9	Georgianne	Van Geffen	Aykut Enişte 2	Taksim Demirören Cinema Pink	A	6	18:00	2021-07-09	Frank Bescoby	5247388071821110	20	Remove
10	Henrietta	Davidek	Sen Ben Lenin	Taksim Demirören Cinema Pink	G	14	18:00	2021-12-13	Nanine Yablsley	6059262950133484	20	Remove
11	Marlee	Michell	Hayalet Avcları Öteki Dünya	Mavibahçe Cinemaximum	G	6	18:00	2021-10-24	Mikel Blackman	7177219633233337	20	Remove
13	Laurent	Speeding	Addams Ailesi 2	Ankara Cinemaximum (ANKAmall)	G	12	15:00	2021-10-26	Broddie Reynish	8372281654956656	20	Remove

Showing 1 to 10 of 50 entries

1 2 3 4 5

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User can display his/her profile.

BIA Cinema

Beyza Gür

Profile

Users

Movies

Tickets

Logout

Profile

Name : Beyza

Nickname : beyza

Email : beyzagur@gmail.com

Birthday : 2000-02-04

Surname : Gür

Gender : Female

Phone : 5555555556

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Admin can also remove or edit movies on this page.

BIA Cinema

Beyza Gür

Profile

Users

Movies

Tickets

Logout

List Of Movies

10

entries per page

Search...

Image	Name	Category	Duration	Director	Year	Rate	View Status	Trailer	
	Dune: Çöl Gezegeni	Action	155	Denis Villeneuve	2021	6	in the vision	dHc2AQaEajw	<div>Edit</div> <div>Delete</div>
	Satranç	Drama	110	Philipp Stolzl	2021	7	in the vision	oXbB7JJa-dw	<div>Edit</div> <div>Delete</div>
	Batı Yakası'nın Hikayesi	Drama	156	Steven Spielberg	2021	6	in the vision	WMFndCiw_vGs	<div>Edit</div> <div>Delete</div>
	Sen Ben Lenin	Comedy	86	Tufan Taştan	2021	6	in the vision	2aBQgGaF_wA	<div>Edit</div> <div>Delete</div>
	Eternals	Action	157	Chloé Zhao	2021	7	in the vision	UwcFvKjHxM	<div>Edit</div> <div>Delete</div>
	Hayalet Avcıları Öteki Dünya	Comedy	123	Jason Reitman	2021	6	in the vision	ISLRYVMkz8E	<div>Edit</div> <div>Delete</div>
	Addams Ailesi 2	Animation	93	Conrad Vernon, Greg Tiernan	2021	7	in the vision	ba6fVkgAf5E	<div>Edit</div> <div>Delete</div>
	Enkanto Sihirli Dünya	Animation	109	Byron Howard, Jared Bush	2021	6	in the vision	vrUkL7-mpt0	<div>Edit</div> <div>Delete</div>
	Gucci Ailesi	Crime	157	Ridley Scott	2021	7	in the vision	XZ0A4CFxw_k	<div>Edit</div> <div>Delete</div>
	Aykut Enişte 2	Comedy	118	Onur Bilgetay	2021	6	in the vision	nYFSQzxaPS4	<div>Edit</div> <div>Delete</div>

Showing 1 to 10 of 24 entries

1

2

3

>

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## Admin can update a movie.

BIA Cinema

Beyza Gür

- Profile
- Users
- Movies
- Tickets

Logout

Update Movie

Name \* Dune Çöl Gezegeni Category \* Action

Description \* Uzak bir gelecekte geçen "Dune", ailesi çöl gezegeni Arrakis'in kontrolüne sahip olan Paul Atreides'in hikayesini anlatıyor. Galaksinin farklı noktalarındaki

Duration \* 155 Director \* Denis Villeneuve Year \* 2021

Trailer Link \* dHc2AQaEajw View Status \* in the vision

Image \* Dosya Seç Seçilen dosya yok

Submit

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## User can see movies that watched previously.

BIA Cinema

Daisey Boothman




- Profile
- Movies
  - Watched Movies
  - Favorite Movies
- Tickets

Logout

List Of Watched Movies

10 entries per page

Search...

Image	Name	Category	Duration	Director	Year	Rate	View Status	Trailer	
	Eternals	Action	157	Chloe Zhao	2021	7	in the vision	UwcfvKjutsM	favorite
	Enkanto Sırlı Dünya	Animation	109	Byron Howard,Jared Bush	2021	6	in the vision	vrukL7-mptD	favorite
	Addams Ailesi 2	Animation	93	Conrad Vernon,Greg Tiernan	2021	7	in the vision	bA6fVKgA5E	favorite

Showing 1 to 3 of 3 entries

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User can see favorite movies list.

**BIA Cinema**

Daisy Boothman

Profile > Movies > Tickets

Logout

**List Of Favorite Movies**

10 entries per page

Search...

Image	Name	Category	Duration	Director	Year	Rate	View Status	Trailer	
	Enkanto Sihirli Dünya	Animation	109	Byron Howard,Jared Bush	2021	6	in the vision	vrukL7-mpt0	Delete
	Addams Ailesi 2	Animation	93	Conrad Vernon,Greg Tiernan	2021	7	in the vision	bA6fVKgAf5E	Delete

Showing 1 to 2 of 2 entries

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This page shows information about website.

**BIA Cinema**

Movies Categories About

Search

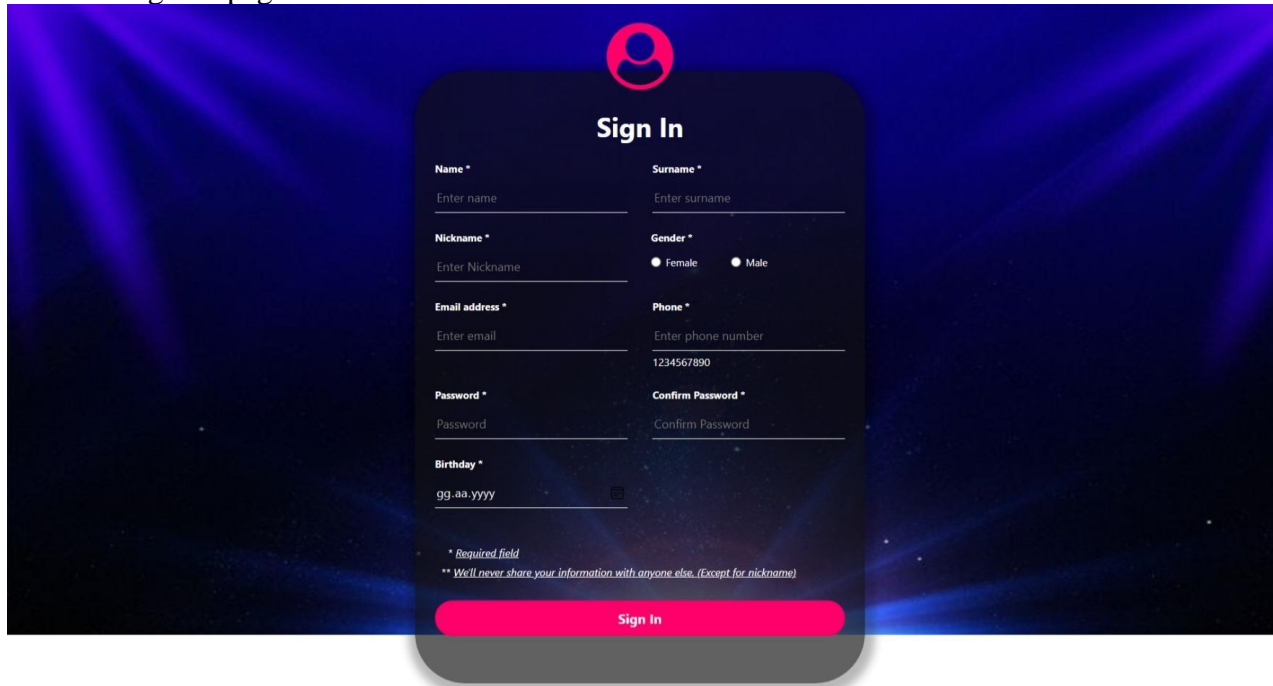
**About Us**

BIA CINEMA, which we laid the foundations of in the last quarter of 2021, is a cinema and ticket website that was established in a very short time. It offers convenience to its users with its convenient and easy interfaces. BIA CINEMA is also a site that allows them to buy tickets from our current cinemas in the current cities for the movies that are on the show. At the same time, the user can view information about the movies that the user likes and that the user has watched before, the user can view the movies in 12 different categories, they can view the advance information about the upcoming movies, and the information about those good old movies that they can't forget. It is a site where users can view the movies they watch most, and where users on our site can view the most liked movies with their votes. BIA CINEMA is a project that takes the vision of growth and development day by day and grows even more.

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## User register page



The image shows a 'Sign In' form on a dark blue background with a starry pattern. The form is centered and has a pink header with a user icon and the text 'Sign In'. It contains several input fields for user registration and login.

**Sign In**

**Name \***  
Enter name

**Surname \***  
Enter surname

**Nickname \***  
Enter Nickname

**Gender \***  
☐ Female ☐ Male

**Email address \***  
Enter email

**Phone \***  
Enter phone number  
1234567890

**Password \***  
Password

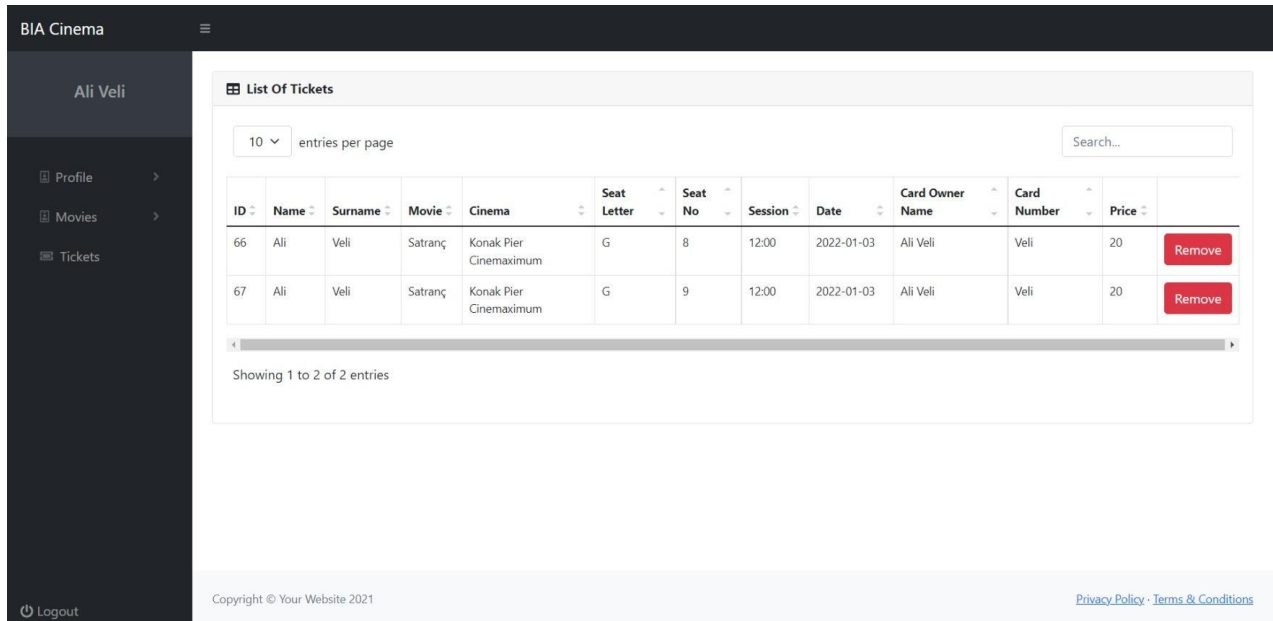
**Confirm Password \***  
Confirm Password

**Birthday \***  
gg.aa.yyyy

\* Required field  
\*\* We'll never share your information with anyone else. (Except for nickname)

**Sign In**

User can list tickets and cancel them if wants.



The image shows the BIA Cinema user interface. On the left is a dark sidebar with the user's name 'Ali Veli' and navigation links for Profile, Movies, and Tickets. The main content area is titled 'List Of Tickets' and displays a table of tickets. The table has columns for ID, Name, Surname, Movie, Cinema, Seat Letter, Seat No, Session, Date, Card Owner Name, Card Number, Price, and a Remove button. There are two tickets listed, both for 'Ali Veli' and 'Satranç' at 'Konak Pier Cinemaximum'.

**BIA Cinema**

Ali Veli

Profile >  
Movies >  
Tickets

**List Of Tickets**

10 entries per page

Search...

ID	Name	Surname	Movie	Cinema	Seat Letter	Seat No	Session	Date	Card Owner Name	Card Number	Price	
66	Ali	Veli	Satranç	Konak Pier Cinemaximum	G	8	12:00	2022-01-03	Ali Veli	Veli	20	<a href="#">Remove</a>
67	Ali	Veli	Satranç	Konak Pier Cinemaximum	G	9	12:00	2022-01-03	Ali Veli	Veli	20	<a href="#">Remove</a>

Showing 1 to 2 of 2 entries

Logout

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Seat selection page, taken seats are colored as red and at the right side there are choosen seats.

The screenshot displays the 'Buy Tickets' interface for BIA Cinema. The main area shows a grid of seats for the movie 'The Scene'. The grid has 8 rows (A-H) and 15 columns (1-15). Seats 8 and 9 in row G are highlighted in red, indicating they are selected. To the right of the grid, there is a section titled 'Chosen Seats' which currently shows 'Price: 0 TL'. At the bottom of the grid, there is a green 'Continue' button. The top navigation bar includes the BIA Cinema logo, a search bar, and links for 'Movies', 'Categories', and 'About'. The user's name 'Ali Veli' is displayed in the top right corner.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A															
B															
C															
D															
E															
F															
G								8	9						
H															

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## **7. Future Work**

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If we had enough time, we would love to have a chat function between users who watched the same movie and a movie recommendation page in our system.