

Online Movie Booking Web Application

March 14, 2023

1 Objective

- Facility to store the information of new users, different types of movie show timing, ticket rates.
- Interest to develop a good user friendly website with many online transactions using a database.
- Facility to change user's password account.
- To increase my knowledge horizon in technologies like JavaScript, MongoDB, CSS, and HTML.
- To complete assignment as part of GritFeat Fellowship program.

2 Theory

“Online Movie Ticket Booking Web App” is an online ticket booking project , customers can book tickets 24 hours a day from anywhere using internet. The main objective of the project is to create an Online Movie Ticket Booking processing that allows customers to know about new movies, their schedules,ticket price etc.

3 Literature Review

3.1 Qfxcinemas

Qfxcinemas.com is popular Nepali online movie booking website. It enables users to book ticket online for movie shows.

3.2 Kirtipurcineplex

Kirtipurcineplex.com is recently launched online movie booking website.

4 Requirement Analysis

4.1 Software Requirement

4.1.1 HTML,CSS and Javascript

HTML, CSS and Vanilla Javascript is used for the development of frontend.

4.1.2 NodeJS

Framework of NodeJS ie. nestJS is used for backend development.

4.2 Hardware Requirement

- Ram: 8GB
- GPU: nvidia 1050ti
- Processor: i5 8th generation
- Disk Space: 1GB or more

4.3 Functional Requirement

- The system shall have a feature register and login to user's account
- The system shall have a feature for user to change or reset password when required.
- The system shall have a feature to store and update account information of the users
- Web App must have separate user and admin dashboard to view and modify the information
- The customer shall be shown a 2D image of the seats from which the desired seats are selected.
- After the payment or browse the movie, the customer can log out.
- After booking, the system can generate the pdf and then sent one copy to the customer's Email-address or user can download it
- The system shall have a feature for admin to add movies and their details such as schedule time.
- The system shall have a feature for admin to remove movies.

4.4 Non Functional Requirement

4.4.1 Usability

The system should be easy to use.

4.4.2 Performance

The system should perform in terms of valid inputs provided by the users. And it must connect to the user's account as soon as possible.

4.4.3 Adaptability

The system should be able to adapt to changing values for particular inputs.

4.4.4 Reliability

The system should offer a high degree of reliability. And it should provide the accurate result by only giving access to the authorized users only.

4.4.5 Security

The system should be secured. Unauthorized access should be denied and a number of lookouts should be set to counter bad login attempts.

5 Feasibility Study

5.1 Operational Feasibility

Our proposed project "Online Movie Ticket Booking Web App" is operationally feasible since there is no need for special training of staff member and whatever little instructing on this system is required can be done so quite easily and quickly as it is essentially This project is being developed keeping in mind the general people who one have very little knowledge of computer operation, but can easily access their required database and other related information. The redundancies can be decreased to a large extent as the system will be fully automated.

5.2 Economic Feasibility

Since the project is entirely based on software, there is no cost expenditure. On the other hand, production of the system does not require much investment.

5.3 Time Feasibility

Time feasibility is about the time dedicated to the project. This is final project, it were given a month for this project with the schedule. And interim progress were reported to the mentors.

5.4 Technical Feasibility

The technical feasibility study assesses the details of how the project delivers a product or service. Since the project is an online based booking system, it would be cost and time efficient in the long run.

6 System Design and Architecture

6.1 Overall System Flow

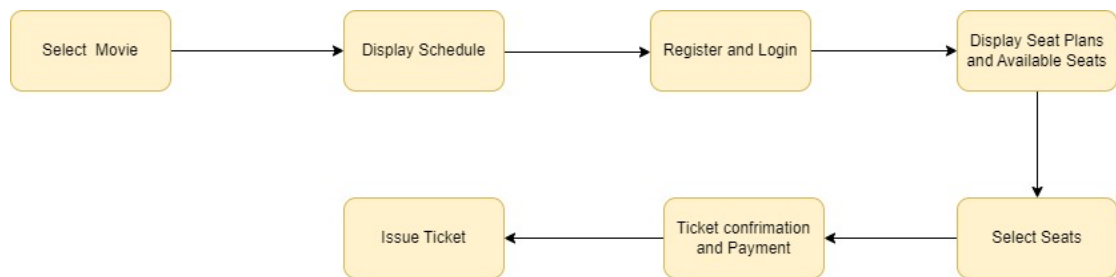


Figure 1: Overall System Flow Diagram

6.2 Use Case Diagram

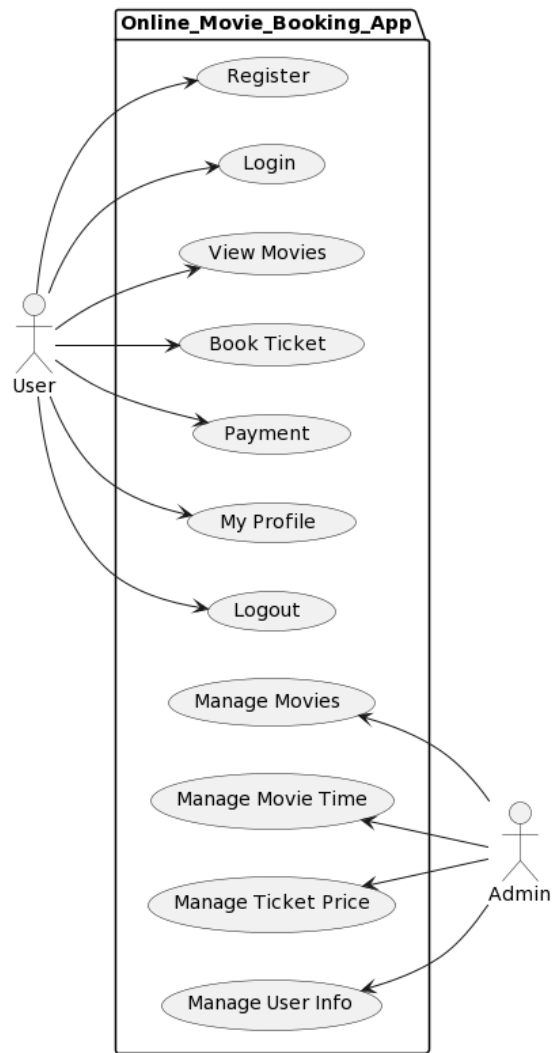


Figure 2: Use Case Diagram for Online Movie Booking Web App

6.3 ERD

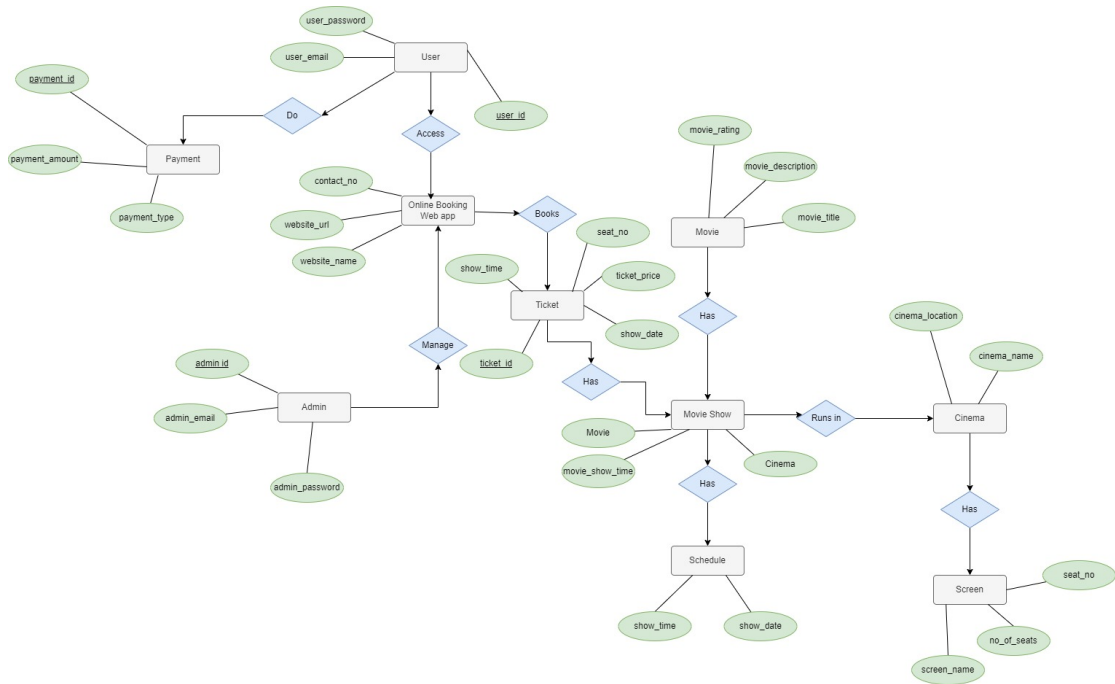


Figure 3: ERD for Online Movie Booking Web App

6.4 ERD with attributes

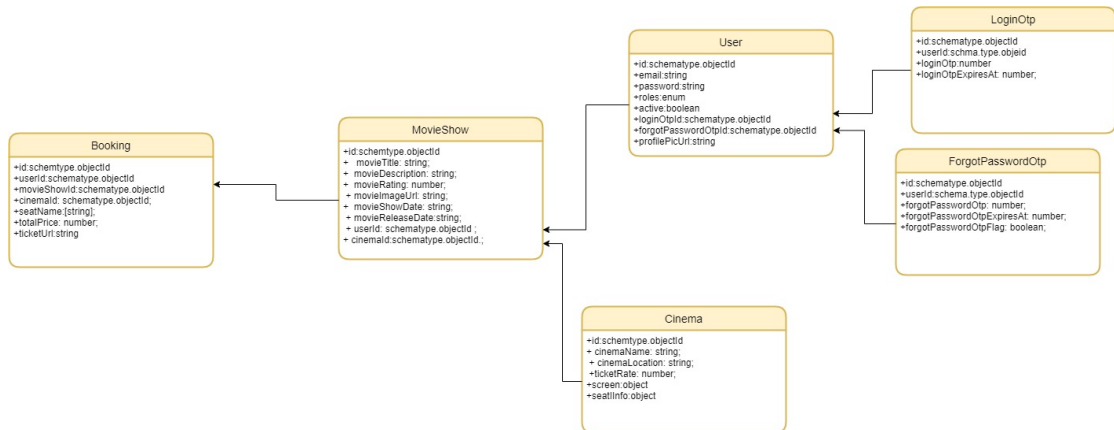


Figure 4: ERD with attributes for Online Movie Booking Web App

6.5 DFD

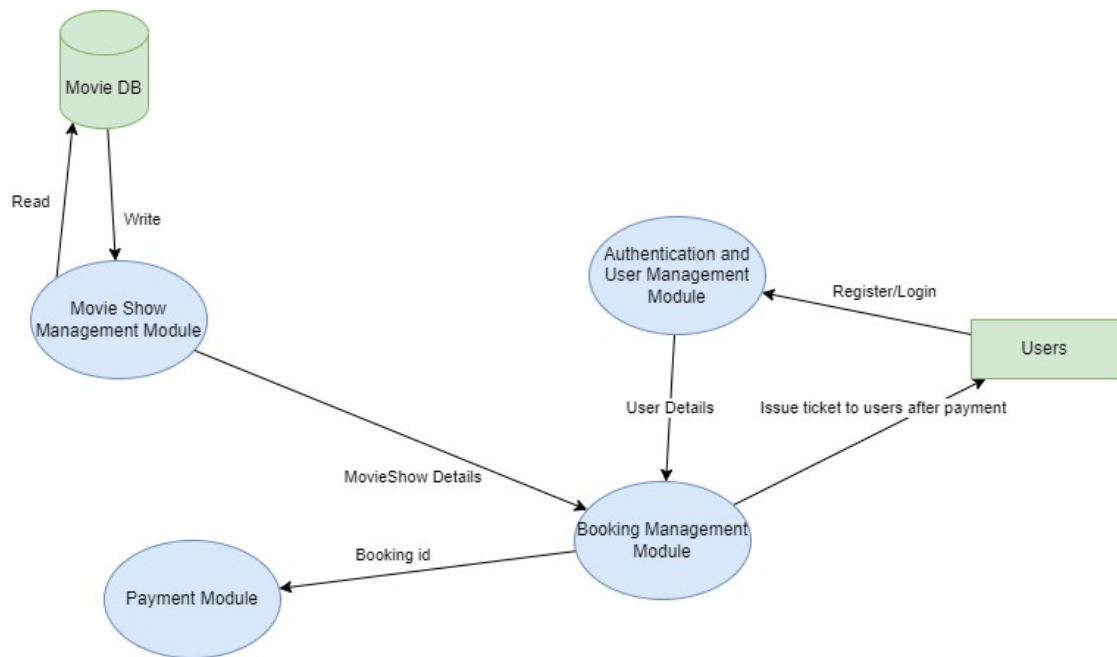


Figure 5: DFD for Online Movie Booking Web App

7 API Documentation

7.1 Authentication Module

7.1.1 Register

POST /api/auth/users/register HTTP/1.1
Host: localhost:3000
Content-Length: 129

```
{  
  "email": "asminkarki09@gmail.com",  
  "password": "1234",  
  "confirmPassword": "1234",  
  "roles": ["admin"]  
}
```

7.1.2 Login

POST /api/auth/users/login HTTP/1.1
Host: localhost:3000
Content-Length: 67

```
{  
  "email": "asminkarki09@gmail.com",  
  "password": "1234"  
}
```

7.1.3 Login Verify OTP

POST /api/auth/users/options/verifyotp HTTP/1.1
Host: localhost:3000
Content-Length: 59

```
{  
  "email": "asminkarki09@gmail.com",  
  "otp": 8354  
}
```

7.1.4 Change Password

PUT /api/auth/users/options/changeuserpassword HTTP/1.1
Host: localhost:3000
Content-Length: 129

```
{  
  "email": "asminkarki09@gmail.com",
```

```
"oldpassword":"1234",  
"newpassword":"12345",  
"confirmpassword":"12345"  
}
```

7.1.5 Resend OTP

```
POST /api/auth/users/options/resendotp HTTP/1.1  
Host: localhost:3000  
Content-Length: 49
```

```
{  
  "email":"asminkarki09@gmail.com"  
}
```

7.1.6 Send Forgotpassword OTP

```
POST  
  /api/auth/users/options/sendforgotpasswordotp/asminkarki09@gmail.com  
  HTTP/1.1  
Host: localhost:3000
```

7.1.7 Forgot Password

```
PUT /api/auth/users/options/forgotpasswordchange HTTP/1.1  
Host: localhost:3000  
Content-Length: 108
```

```
{  
  "email":"asminkarki09@gmail.com",  
  "newpassword":"12345",  
  "confirmpassword":"12345"  
}
```

7.1.8 Forgot Password OTP Verify

```
POST /api/auth/users/options/forgotpasswordotpverify HTTP/1.1  
Host: localhost:3000  
Content-Length: 61
```

```
{"email":"asminkarki09@gmail.com",  
  "otp":9567}
```

7.1.9 Get Access Token

```
GET /api/auth/users/options/accesstoken HTTP/1.1
Host: localhost:3000
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
eyJ1c2VybmFtZSI6ImFzbWlua2Fya2kwOUUBnbWFpbC5jb20iLCJzdWI
iOiI2M2NmYmE2MWRiMzJmZjE5NGE5MzRhZTMiLCJyb2xlcyl6Wy
JhZG1pbiJdLCJpYXQiOiJlE2NzQ1NjAzMDcsImV4cCI6MTY3NDY0NjcwN30
.ozmSLA93S7HAcRTXYvx8tmOMITXJawTc_qm0tIwh2HQ
```

7.2 MovieShow Module

7.2.1 Add Cinema

```
POST /api/movieshow/cinema/add HTTP/1.1
Host: localhost:3000
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
eyJ1c2VybmFtZSI6ImFzbWlua2Fya2kwOUUBnbWVpbC5jb20iLCJzdWI
iOiI2M2NmYmE2MWRiMzJmZjE5NGE5MzRhZTMiLCJyb2xlcYI6Wy
JhZG1pbiJdLCJpYXQiOiJlE2NzQ1NjAzMDcsImV4cCI6MTY3NDY0NjcwN30
.ozmSLA93S7HAcRTXYvx8tmOMITXJawTc_qm0tIwh2HQ
Content-Length: 628
```

```
{
  "cinemaName": "CinePlex",
  "cinemaLocation": "Kathmandu",
  "ticketRate": 200,
  "screen": [{
    "screenName": "Audi 1",
    "numOfSeat": 5
  }],
  "seatInfo": [
    {
      "seatName": "A1",
      "sold": false
    },
    {
      "seatName": "A2",
      "sold": false
    },
    {
      "seatName": "A3",
      "sold": false
    },
    {
      "seatName": "A4",
      "sold": false
    },
    {
      "seatName": "A5",
      "sold": false
    }
  ]
}
```

7.2.2 Update Cinema By Id

```
PUT /api/movieshow/cinema/update HTTP/1.1
```

Host: localhost:3000
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
eyJ1c2VybmFtZSI6ImFzbWlua2Fya2kwOUBnbWFpbC5jb20iLCJzdWI
iOiI2M2NmYmE2MWRiMzJmZjE5NGE5MzRhZTMiLCJyb2xlcYI6Wy
JhZG1pbiJdLCJpYXQ1OjE2NzQ1NjAzMDcsImV4cCI6MTY3NDY0NjcwN30
.ozmSLA93S7HAcRTXYvx8tmOMITXJawTc_qm0tIwh2HQ
Content-Length: 627

```
{
  "cinemaName": "CinePlex",
  "cinemaLocation": "Kathmandu",
  "ticketRate": 200,
  "screen": [{
    "screenName": "Audi 1",
    "numOfSeat": 4
  }],
  "seatInfo": [
    {
      "seatName": "A1",
      "sold": false
    },
    {
      "seatName": "A2",
      "sold": false
    },
    {
      "seatName": "A3",
      "sold": false
    },
    {
      "seatName": "A4",
      "sold": true
    },
    {
      "seatName": "A5",
      "sold": false
    }
  ]
}
```

7.2.3 Delete Cinema By Id

DELETE /api/movieshow/cinema/delete/63cfc6bf3f605f354c110d9b
HTTP/1.1
Host: localhost:3000
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
eyJ1c2VybmFtZSI6ImFzbWlua2Fya2kwOUBnbWFpbC5jb20iLCJzdWI
iOiI2M2NmYmE2MWRiMzJmZjE5NGE5MzRhZTMiLCJyb2xlcYI6Wy

JhZG1pbiJdLCJpYXQiOjE2NzQ1NjAzMDcsImV4cCI6MTY3NDY0NjcwN30
.ozmSLA93S7HAcRTXYvx8tmOMITXJawTc_qm0tIwh2HQ
Content-Length: 627

```
{
  "cinemaName": "CinePlex",
  "cinemaLocation": "Kathmandu",
  "ticketRate": 200,
  "screen": [{
    "screenName": "Audi 1",
    "numOfSeat": 4
  }],
  "seatInfo": [
    {
      "seatName": "A1",
      "sold": false
    },
    {
      "seatName": "A2",
      "sold": false
    },
    {
      "seatName": "A3",
      "sold": false
    },
    {
      "seatName": "A4",
      "sold": true
    },
    {
      "seatName": "A5",
      "sold": false
    }
  ]
}
```

7.2.4 Add Movie Show

POST /api/movieshow/add HTTP/1.1
Host: localhost:3000
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
eyJ1c2VybmFtZSI6ImFzbWlua2Fya2kwOUBnbWFpbC5jb20iLCJzdWI
iOiI2M2NmYmE2MWRiMzJmZjE5NGE5MzRhZTMiLCJyb2xlcYI6Wy
JhZG1pbiJdLCJpYXQiOjE2NzQ1NjAzMDcsImV4cCI6MTY3NDY0NjcwN30
.ozmSLA93S7HAcRTXYvx8tmOMITXJawTc_qm0tIwh2HQ
Content-Length: 502

```
{
```

```
"movieTitle": "The Shawshank Redemption",
"movieDescription": "Two imprisoned men bond over a number of
  years, finding solace and eventual redemption through acts of
  common decency.",
"movieRating": 9.3,
"movieImage":
  "https://image.tmbd.org/t/p/w500/907gLzmreU0nGkIB6K3BsJbznV.jpg",
"movieShowTime": "7:00 PM",
"movieShowDate": "2022-07-01",
"movieReleaseDate": "1994-09-23",
"userId": "63cfba61db32ff194a934ae3",
"cinemaId": "63ca2d753b30ea7e027ea5ae"
}
```

7.2.5 Delete Movie Show By Id

```
DELETE /api/movieshow/delete/63cfc8a034b42f4218108a62 HTTP/1.1
Host: localhost:3000
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
eyJ1c2VybmFtZSI6ImFzbWlua2Fya2kwOUBnbWVpbC5jb20iLCJzdWI
iOiI2M2NmYmE2MWRiMzJmZjE5NGE5MzRhZTMiLCJyb2xlcYI6Wy
JhZG1pbiJdLCJpYXQiOiJlE2NzQ1NjAzMDcsImV4cCI6MTY3NDY0NjcwN30
.ozmSLA93S7HAcRTXYvx8tmOMITXJawTc_qm0tIwh2HQ
```

7.2.6 Update Movie Show By Id

```
PUT /api/movieshow/update/ HTTP/1.1
Host: localhost:3000
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
eyJ1c2VybmFtZSI6ImFzbWlua2Fya2kwOUBnbWVpbC5jb20iLCJzdWI
iOiI2M2NmYmE2MWRiMzJmZjE5NGE5MzRhZTMiLCJyb2xlcYI6Wy
JhZG1pbiJdLCJpYXQiOiJlE2NzQ1NjAzMDcsImV4cCI6MTY3NDY0NjcwN30
.ozmSLA93S7HAcRTXYvx8tmOMITXJawTc_qm0tIwh2HQ
```

7.3 Payment Module

7.3.1 Create Payment

```
POST /api/payment/63cf8fc31d339d01afe29dbb HTTP/1.1
Host: localhost:3000
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ1c2VybmFtZSI6ImFzbWlua2Fya2kwOUBnbWFpbC5jb20iLCJzdWIiOiI2M2NmYmE2MWRiMzJmZjE5NGE5MzRhZTMiLCJyb2xlcYI6WyJhZG1pbiJdLCJpYXQiOiJlE2NzQ1NjAzMDcsImV4cCI6MTY3NDY0NjcwN30.ozmSLA93S7HAcRTXYvx8tmOMITXJawTc_qm0tIwh2HQ
Content-Length: 26
```

```
{
  "paidAmount":200
}
```

7.4 Booking Module

7.4.1 Add Booking

```
POST /api/booking/add HTTP/1.1
Host: localhost:3000
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ1c2VybmFtZSI6ImFzbWlua2Fya2kwOUBnbWFpbC5jb20iLCJzdWIiOiI2M2NmYmE2MWRiMzJmZjE5NGE5MzRhZTMiLCJyb2xlcYI6WyJhZG1pbiJdLCJpYXQiOiJlE2NzQ1NjAzMDcsImV4cCI6MTY3NDY0NjcwN30.ozmSLA93S7HAcRTXYvx8tmOMITXJawTc_qm0tIwh2HQ
Content-Length: 179
```

```
{
  "movieShowId": "63b3fd43762f2ad07dcd9a5c",
  "userId": "63c7e1f8f0dce90c3d3a8169",
  "cinemaId": "63ca2d753b30ea7e027ea5ae",
  "seatName": [
    "A4"
  ]
}
```

7.4.2 Delete Booking By Id

```
DELETE /api/booking/delete/ HTTP/1.1
Host: localhost:3000
Content-Length: 179
```

```
{
  "movieShowId": "63b3fd43762f2ad07dcd9a5c",
  "userId": "63c7e1f8f0dce90c3d3a8169",
  "cinemaId": "63ca2d753b30ea7e027ea5ae",
}
```



```
    "seatName": [  
        "A3"  
    ]  
}
```

7.4.3 Send Ticket By Id

```
POST /api/booking/sendticket/63cf8fc31d339d01afe29dbb HTTP/1.1  
Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.  
eyJ1c2VybmFtZSI6ImFzbWlua2Fya2kwOUUBnbWFpbC5jb20iLCJzdWI  
iOiI2M2NmYmE2MWRiMzJmZjE5NGE5MzRhZTMiLCJyb2xlcYI6Wy  
JhZG1pbiJdLCJpYXQiOi0jE2NzQ1NjAzMDcsImV4cCI6MTY3NDY0NjcwN30  
.ozmSLA93S7HAcRTXYvx8tmOMITXJawTc_qm0tIwh2HQ  
Host: localhost:3000
```
