



# OURSPACE



**OurSpace is an online platform that connects people looking for shared spaces with owners who have spaces to rent, such as co-working spaces, meeting rooms or private offices.**

**Space owners can list their space with details like location, size , price , facilities or Rental rates. customers can search, book, and review spaces in just a few clicks. The platform handles payments securely and earns a small 3% service fee on each booking.**

# IMPORTANCE

**Reasons why we think this is important (and interesting!):**

- **Space owners can rent out empty offices and earn extra income.**
- **Many people work from home or freelance and need short-term office spaces.**
- **The platform recommends spaces based on what customers like and need.**
- **Gives smart recommendations, shows simple reports, and improves based on customer feedback to make the platform easy to use.**



# DATA REQUIREMENTS

1

**Customer** - This table will store information about the profile of the customers

2

**Owner** - This table will store the information about the profile of owners

3

**Space** - This table will store the information about listed spaces on the platform

4

**Booking** - This table will store customer's booking information

5

**Rent** - This table will store the information that the rental transactions are actually carried out

6

**Payment** - This table will store detailed financial transactions among owners, customers, others

# DATA CONSTRAINTS

1

Users must register before making a booking with a valid debit or credit card and email address

2

Email IDs, userid, bookingids, spaceid, transactionid and owner should be unique

3

Ensure that bookings do not overlap for the same space at the same time.

# BUSINESS RULES

1

2

3

When a customer is searching up spaces to rent, no “**booked**” spaces should be displayed. Only “**active**” or “**unoccupied**” spaces should be displayed

2

3

Booking can only be cancelled and the charges will be refunded if the cancellation is made at least 24 hours before the scheduled booking timing.

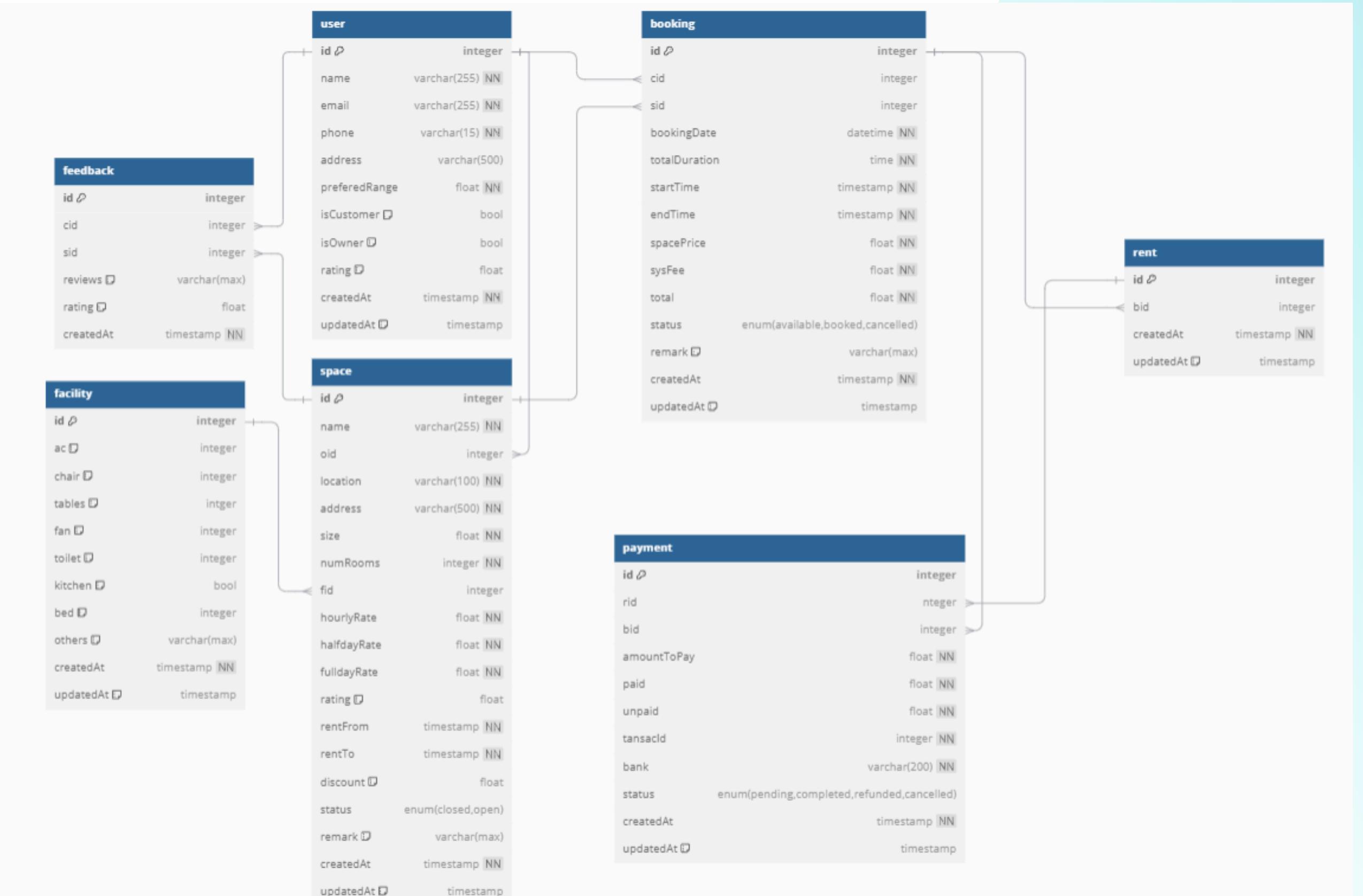
3

2

1

Payments must be made during booking the spaces

# CONCEPTUAL DESIGN



[Click For Conceptual Design](#)

# TRANSACTIONS

**Kaung Nyo Lwin**

1

## **User Registration:**

New owners and customers can register their profile before listing their spaces or booking the spaces.

**INPUT : Name | Email | Phone**

**OPERATION: INSERTION INTO USER TABLE**

2

## **Booking spaces:**

Customers can book listed spaces

**INPUT : Date | Start Time | End Time | Space Name**

**OPERATION: INSERTION INTO BOOKING TABLE**

3

## **Paying the charges:**

Customers can pay the charges for the booked spaces.

**INPUT : Price | Fee | Paid Amount | Bank**

**OPERATION: INSERTION INTO PAYMENT TABLE**

# TRANSACTIONS

Kaung Nyo Lwin

Booking Spaces

```
SET duration = TIMESTAMPDIFF(HOUR,startTime, endTime);
IF duration < 12 THEN
    SET price = (SELECT s.hourlyRate * duration FROM space s WHERE s.id = sid );
ELSEIF duration < 24 THEN
    SET price = (SELECT s.hourlyRate * (duration-12) + s.halldayRate
                  FROM space s WHERE s.id = sid );
ELSE
    SET price = (SELECT s.fulldayRate * duration FROM space s WHERE s.id = sid );
END IF;
SET sts = 'booked';
```

Pay Charges

```
SET amountToPay = (SELECT b.total FROM booking b WHERE b.id = bid AND b.status <> 'cancelled') -
                  (SELECT SUM(p.paid) FROM payment p WHERE p.bid = bid AND p.status = 'completed');
SET unpaid = amountToPay - paid;
SET sts = 'completed';
```

```
INSERT INTO
    booking(cid, sid, bookingDate, totalDuration,
            startTime, endTime, spacePrice,
            status, remark, createdAt, updatedAt
)
VALUES(
    cid, sid, bookingDate, duration,
    startTime, endTime, price,
    sts, remark, now(), now()
);
```

```
INSERT INTO
    payment(rid, bid, amountToPay, paid, unpaid,
            transacId, bank, status, createdAt, updatedAt
)
VALUES(
    rid, bid, amountToPay, paid, unpaid,
    transacId, bank, sts, now(), now()
);
```

# IMPORTANT DATA QUERIES AND REPORT

- **Most spenders Report:** Retrieve the most spending customers based on their rental activities
  - **Input:** | From Date | To Date |
  - **Output:**

	User Name	Days On Platform	Total Spent Amount	Average Spent Amont Per Day
	David White	1	260	260
	John Doe	1	255	255
▶	Alice Johnson	1	232	232
	Jane Smith	1	230	230
	Chris Green	1	166	166

- **Monthly Revenue Report:** Generate a revenue report based on monthly detailed rental transactions.
  - **Input:** | From Month | To Month |
  - **Output:**

	Month	Year	Space Price	Platform Fee	Total
	January	2025	230	6.020000100135803	206.52000427246094
	February	2025	200	5.269999980926514	180.77000427246094
	March	2025	156	3.8400001525878906	132
	April	2025	166	4.460000038146973	153.1999969482422
	May	2025	134	3.4800000190734863	119.5
	June	2025	186	4.930000066757202	169.2699966430664

# IMPORTANT DATA QUERIES AND REPORT

- **Popular Day of the Week report:** Generate a report to see the most busy days of the weeks
  - **Input:** | From Date | To Date |
  - **Output:**

	Day	Total Bookings	Space Price	Platform Fee
▶	Friday	3	160	4.25
	Wednesday	3	230	6.080000042915344
	Sunday	3	266	6.9100000858306885
	Tuesday	3	254	6.769999980926514
	Thursday	3	276	7.250000238418579
	Saturday	2	178	4.440000057220459
	Monday	1	90	2.29999952316284

- **Rental Report by price range:** Generate a report that shows number of bookings, spending amount, total fee and number of listed spaces by defined price ranges
  - **Input:** | price ranges |

	Ranges of Hourly Rate	Total Number of Bookings	System Fee
▶	20 - 30	24	54.40000140666962
	30 - 40	4	8.539999842643738
	10 - 20	2	2.850000023841858

# SPACE RECOMMENDATION QUERY

## Kaung Nyo Lwin

```
-- This suquery av is for available spaces
(SELECT *
FROM space s
WHERE s.id NOT IN
-- This suquery is to find fully booked spaces within searching timeslots
(SELECT bt.sid
FROM (
    SELECT b.sid,SUM(CAST(TIMESTAMPDIFF(HOUR,b.startTime, b.endTime) AS DECIMAL)) AS 'bookedHours'
    FROM booking b
    WHERE DATE(b.startTime) = DATE(startTime)
    AND b.startTime >= startTime AND b.endTime <= endTime
    GROUP BY b.sid
) bt
WHERE bt.bookedHours >= CAST(TIMESTAMPDIFF(HOUR,startTime, endTime) AS DECIMAL)
)
```

-- This subquery is to see the number of bookings for each spaces by the user

```
(SELECT b.sid,count(b.cid) AS 'num_bookings'
FROM booking b
WHERE b.cid = uid
GROUP BY b.sid) bf
```

```
-- filtering and ordering to recommend
WHERE av.location = location
AND av.hourlyRate BETWEEN loLimit AND upLimit
ORDER BY IFNULL(bf.num_bookings,0) DESC, av.rating DESC
LIMIT 10;
```

Space Name	hourlyRate	halfdayRate	fulldayRate	rating
Space A	20	100	180	4.5
space 115	20	100	180	4.5
Space 1	20	100	180	4.5
Space 2	20	100	180	4.5
Space 3	20	100	180	4.5
Space 4	20	100	180	4.5
Space 5	20	100	180	4.5
Space 6	20	100	180	4.5
Space 7	20	100	180	4.5
Space 8	20	100	180	4.5

**Retrieve a list of available spaces based on the user's information such as location, history of booking, and preferred price range**

# TRANSACTIONS

Truong Vuong

4

## Space Status Update:

Space owners can update the availability status of their listed spaces (e.g., available, unavailable, temporarily unavailable for maintenance).

**INPUT : SPACEID | STATUS | REMARK |**

**OPERATION: UPDATE THE STATUS OF A SPACE**

5

## Space Removal:

The platform administrators can remove a space listing temporarily or permanently due to violations, safety concerns, or legal issues.

**INPUT : SPACEID**

**OPERATION: PERMANENTLY REMOVE A SPACE**

6

## Promotional Offers:

Owners can create/manage discounts for spaces or user groups.

**INPUT : SPACEID | DISCOUNT |**

**OPERATION: UPDATE A DISCOUNT FOR A SPACE**

# IMPORTANT DATA QUERIES AND REPORT

- **Customer Retention Report:** Calculates the total bookings, total spend, last booking date, and retention status for each customer. Retention status can be based on the frequency of bookings (e.g., more than 3 bookings = "Loyal").

- **Input:** | CUSTOMERNAME | BOOKINGID | BOOKINGTOTAL | BOOKINGDATE

- **Output:**

CustomerName	Total Bookings	TotalSpend	LastBookingDate	Retention Status
John Doe	4	235.36	2025-11-05 9:00:00	Loyal
Alice Johnson	3	265.74	2025-03-15 11:00:00	Loyal
Jane Smith	2	157.6	2025-12-07 10:00:00	At Risk

- **Space Utilization Efficiency Report:** Calculates the utilization rate of spaces based on total bookings and the total available hours in the defined period.

- **Input:** | SPACENAME | SPACELOCATION | BOOKINGID | RENTFROM | RENTTO

- **Output:**

SpaceName	Location	TotalBookings	AvailableHours	UtilizationRate
Space P	Riverside	2	657	0.3
Space B	Uptown	2	729	0.27
Space A	Downtown	2	729	0.27

- **Booking Trends by Season Report:** Identifies booking trends based on seasons.

- **Input:** | BOOKINGID | BOOKINGDATE | BOOKINGSYSFEE

- **Output:**

Season	TotalBookings	TotalRevenue	TotalBookingFee
Winter	7	532.5	15.99
Spring	7	482.92	14.48
Summer	7	523.38	15.71
Fall	2	82.98	2.49

# IMPORTANT DATA QUERIES AND REPORT

- **Customer Feedback Sentiment Report:** Analyzes customer feedback to identify trends in satisfaction, issues, and areas for improvement. The report summarizes reviews based on sentiment analysis (positive, neutral, negative) and highlights spaces with the most positive or negative feedback.

- **Input:** | SPACENAME | SPACELOCATION | FEEDBACKRATING

- **Output:**

SpaceName	Location	TotalReviews	PositiveSentimentPercentage	NeutralSentimentPercentage	NegativeSentimentPercentage	AverageRating
Space T	Cultural District	1	100	0	0	4.4
Space B	Uptown	2	50	50	0	4.1
Space H	East Side	1	0	100	0	3.5
Space C	Midtown	3	33.33	0	66.67	3.47
Space O	Greenfield	1	0	100	0	3
Space R	University Area	1	0	100	0	3

- **Space Demand and Performance Report:** Highlights the most and least demanded spaces, showcasing booking trends and performance metrics like revenue contribution and utilization disparities.

- **Input:** | SPACENAME | SPACELOCATION | BOOKINGTOTAL | BOOKINGID

- **Output:**

SpaceName	Location	TotalRevenue	TotalBookings	AverageBookingRate	PerformanceStatus
Space D	Suburb	180	2	90	Moderate Demand
Space B	Uptown	153	2	76.5	Moderate Demand
Space P	Riverside	142.74	2	71.37	Moderate Demand
Space A	Downtown	116	2	58	Moderate Demand
Space H	East Side	105.6	1	105.6	Low Demand
Space R	University Area	105.6	1	105.6	Low Demand

# TRANSACTIONS

## Cassandra Chang

### **Feedback Submission:**

Customers can provide or update feedback for rented spaces, including ratings and comments.

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**INPUT: | Reviews | Ratings |**

**OPERATION: INSERTION INTO FEEDBACK TABLE**

### **Rental Rate Adjustments:**

Space owners can modify rental rates (hourly, half-day, or full-day) for their listed spaces.

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**INPUT: | Space Name | Hourly Rate | Half Day Rate | Full Day Rate |**

**OPERATION: UPDATE VALUES IN SPACE TABLE**

### **User Profile Updates:**

Users (owner or customer) can update their personal details (e.g., name, contact info, preferences) or reset their account passwords.

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**INPUT: | Name | Email | Phone Number| Address |**

**OPERATION: UPDATE VALUES IN USER TABLE**

# TRANSACTIONS

Cassandra Chang

## Feedback Submission:

```
CREATE procedure `SubmitFeedback` (
    IN p_cid INT,
    IN p_sid INT,
    IN p_reviews VARCHAR(255),
    IN p_rating FLOAT
)
BEGIN
    DECLARE feedback_exists INT;
    -- Start the transaction
    START TRANSACTION;
    -- Check if feedback already exists
    -- for the given customer and space
    SELECT COUNT(*) INTO feedback_exists
    FROM feedback
    WHERE cid = p_cid AND sid = p_sid;
    -- If feedback exists, update it
    IF feedback_exists > 0 THEN
        UPDATE feedback
        SET reviews = p_reviews, rating = p_rating, createdAt = NOW()
        WHERE cid = p_cid AND sid = p_sid;
    -- If no feedback exists, insert a new record
    ELSE
        INSERT INTO feedback (cid, sid, reviews, rating, createdAt)
        VALUES (p_cid, p_sid, p_reviews, p_rating, NOW());
    END IF;
    -- Commit the transaction if successful
    COMMIT;
END//
```

# IMPORTANT DATA QUERIES AND REPORT

- **Feedback Report:** Highlights spaces with the highest ratings, grouped by location or facility type.
  - **Input:** |Space Name | Facility ID |Location | Highest Rating |

location	facility_id	highest_rating	top_rated_spaces
City Center	5	4.9	Space E
Greenfield	15	4.9	Space O
West Side	9	4.8	Space I
Tech Hub	14	4.8	Space N
Suburb	4	4.8	Space D
Industrial Park	19	4.8	Space S

- **Customer Booking History:** Fetch all bookings made by a specific customer, including space details, booking dates, facilities used, and total charges.
  - **Input:** | Booking ID | Space Name | Location | Booking Date | Total Charges|

Booking_ID	Customer_Name	Space_Name	Location	Booking_Date	Total_Charges
13	John Doe	Space K	North Side	2025-11-05 09:00:00	37.08
23	John Doe	Space A	Downtown	2025-02-04 06:22:15	82.4
2	John Doe	Space B	Uptown	2025-01-13 09:00:00	78.8
1	John Doe	Space A	Downtown	2025-01-10 09:00:00	37.08

# IMPORTANT DATA QUERIES AND REPORT

- **Space Owner Earnings Report:** Generate a report for a specific space owner, showing earnings grouped by their spaces.

- **Input:** Space Name | Total Bookings | Earnings | Platform Fee |

**SELECT**

```
s.oid AS Space_Owner,  
s.id AS Space_Id,  
s.name AS Space_Name,  
COUNT(b.bookingDate) AS Total_Bookings,  
ROUND(SUM(b.spacePrice - (b.spacePrice * (b.discount/100)) - b.sysFee ))AS Owner_Earning
```

**FROM** space s

**JOIN** booking b **ON** s.id=b.sid

**JOIN** user u **ON** s.oid = u.id

**WHERE** s.oid=4

**GROUP BY** s.id, s.name, s.oid

**ORDER BY** Owner\_Earning DESC;

# IMPORTANT DATA QUERIES AND REPORT

- **Space Owner Earnings Report:** Generate a report for a specific space owner, showing earnings grouped by their spaces.

- **Input:** Space Name | Total Bookings | Earnings | Platform Fee |

	Space_Owner	Space_Id	Space_Name	Total_Bookings	Owner_Earning
▶	4	4	Space D	2	175
▶	4	1	Space A	2	113
▶	4	14	Space N	1	96

- **Inactive Spaces Report:** Retrieve a list of spaces of a Space Owner that are not available.

- **Input:** Owner Id| Booking Status |

	Owner_Name	Location	Address	Owner_ID	Space_Name	status
▶	Bob Brown	Downtown	123 Space St	4	Space A	closed

- **Canceled Bookings Report:** Generate a report showing all canceled bookings, including the reason for cancellation and associated customer details.

- **Input:** | Booking ID | Customer Name | Space Name | Cancellation Date | Reason |

Customer_Name	Customer_Number	Customer_Email	Space_Name	Location	Address	Owner_ID	Booking_Status
Chris Green	4564564567	chrisg@example.com	Space P	Riverside	147 Space St	6	cancelled

# TRANSACTIONS

**AYMEN ZUBAIR QURESHI**

10

## **Owner Reviews Feedback:**

The space owner can review customer feedback and ratings for their space.

**Input:** | spaceName | CustomerName | Rating | Reviews | createdAt |

**OPERATION:** Retrieving customer feedback for space owners

11

## **Editing the bookings:**

The customer can modify/cancel the booking dates.

**Input:** | bookingId | spaceId | customerName | bookingDate | status | updatedAt |

**OPERATION:** Modifying the booking date or time.

12

## **New space listing:**

The space owner can create a new listing by providing details like location, capacity, and rental rates

**Input:** | spaceId | spaceName | Location | Room Nos | hourlyRate | halfdayRate | fulldayRate |

**OPERATION:** Inserting a new space listing

# TRANSACTIONS

## New space listing:

```
DELIMITER //

CREATE PROCEDURE NewSpaceListing(
    IN p_spaceName VARCHAR(255),
    IN p_location VARCHAR(100),
    IN p_address VARCHAR(500),
    IN p_size FLOAT,
    IN p_roomNos INT,
    IN p_hourlyRate FLOAT,
    IN p_halfdayRate FLOAT,
    IN p_fulldayRate FLOAT,
    IN p_oid INT,
    IN p_fid INT,
    IN p_rentFrom TIMESTAMP,
    IN p_rentTo TIMESTAMP,
    IN p_status ENUM('open', 'closed'),
    IN p_remark TEXT
)
BEGIN
    -- Start the transaction
    START TRANSACTION;

    -- Insert the new space listing
    INSERT INTO space (
        name, location, address, size, numRooms, fid, hourlyRate,
        halfdayRate, fulldayRate, rentFrom, rentTo,
        status, remark, oid, createdAt, updatedAt
    )
    VALUES (
        p_spaceName, p_location, p_address, p_size, p_roomNos, p_fid,
        p_hourlyRate, p_halfdayRate, p_fulldayRate, p_rentFrom,
        p_rentTo, p_status, p_remark, p_oid, CURRENT_TIMESTAMP, CURRENT_TIMESTAMP
    );

    -- Commit the transaction
    COMMIT;

END//;

DELIMITER ;
```

# IMPORTANT DATA QUERIES AND REPORT

- **Owner Review Feedback Query:** Fetch all customer feedback and ratings for spaces owned by a specific owner.
  - **Input:** | SpaceId | CustomerId |

	spaceName	CustomerName	rating	reviews	createdAt
▶	Space B	John Doe	3.5	It is fine	2025-02-04 05:06:22
	Space B	Jane Smith	4.7	Spacious and modern, perfect for our event.	2025-02-04 05:06:22
	Space E	Chris Green	4.9	Luxury space, worth every penny.	2025-02-04 05:06:22
	Space H	Frank Blue	3.5	Quiet and peaceful, loved it.	2025-02-04 05:06:22
	Space L	Jane Smith	4.7	Modern and elegant, perfect for our needs.	2025-02-04 05:06:22
	Space O	Chris Green	3	Eco-friendly space, very impressive.	2025-02-04 05:06:22

- **Editing a booking (status):** Update the status of a specific booking and retrieve the updated details, including the new status and relevant booking information..
  - **Input:** | CustomerId | Status |

**Before:**

	id	spaceName	status	bookingDate	startTime	endTime
▶	5	Space D	cancelled	2025-03-14 11:00:00	2025-03-14 11:00:00	2025-03-14 15:00:00

- **Editing a booking (status):** Update the status of a specific booking and retrieve the updated details, including the new status and relevant booking information..
  - **Input:** | CustomerId | Status |

```
UPDATE booking
SET status = 'Available', updatedAt = CURRENT_TIMESTAMP
WHERE id = 5;
```

**After:**

	id	spaceName	status	bookingDate	startTime	endTime
▶	5	Space D	available	2025-03-14 11:00:00	2025-03-14 11:00:00	2025-03-14 15:00:00

# IMPORTANT DATA QUERIES AND REPORT

- **Recently listed space Query:** Fetch all newly listed spaces by a specific space owner, including details like location, capacity, and rental rates.
  - **Input:** | ownerName | createdAt |

	<b>id</b>	<b>name</b>	<b>location</b>	<b>address</b>	<b>size</b>	<b>numRooms</b>	<b>hourlyRate</b>	<b>halfdayRate</b>	<b>fulldayRate</b>	<b>rating</b>	<b>createdAt</b>
▶	11	Space K	North Side	963 Space St	120	3	20	100	180	4.5	2025-02-04 05:06
	20	Space T	Cultural District	369 Space St	200	5	32	160	290	4.4	2025-02-04 05:06
	19	Space S	Industrial Park	741 Space St	110	3	16	80	145	4.8	2025-02-04 05:06
	18	Space R	University Area	852 Space St	190	4	27	135	230	4.6	2025-02-04 05:06
	17	Space Q	Downtown	963 Space St	150	4	24	120	215	4.7	2025-02-04 05:06
	16	Space P	Riverside	147 Space St	170	4	28	140	250	4.5	2025-02-04 05:06

- **Most Popular Spaces by Booking Frequency :** Retrieve spaces that have been booked the most frequently over a given time period.
  - **Input:** | SpacelId | ownerName | |TotalBookings |

<b>id</b>	<b>name</b>	<b>location</b>	<b>address</b>	<b>hourlyRate</b>	<b>halfdayRate</b>	<b>fulldayRate</b>	<b>rating</b>	<b>booking_count</b>
19	Space S	Industrial Park	741 Space St	16	80	145	4.8	1
20	Space T	Cultural District	369 Space St	32	160	290	4.4	1
1	Space A	Downtown	123 Space St	20	100	180	4.5	1

# IMPORTANT DATA QUERIES AND REPORT

- **Popular Booking Time Slots Query:** Retrieve the most popular booking times based on customer preferences, helping to optimize space availability.
  - **Input:** | SpacelId | bookingDate | createdAt |

	time_slot	booking_count
▶	11:00	2
	09:00	1
	10:00	1