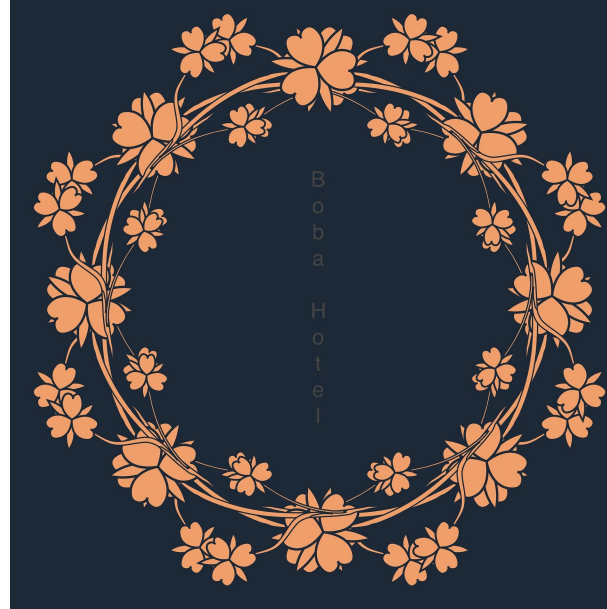


Boba Hotel Management System



- **Database Purpose**

- 1) Tracking ***real-time availability*** of each room
- 2) Maintaining ***essential data***
- 3) Keeping track of ***transaction information*** on each order

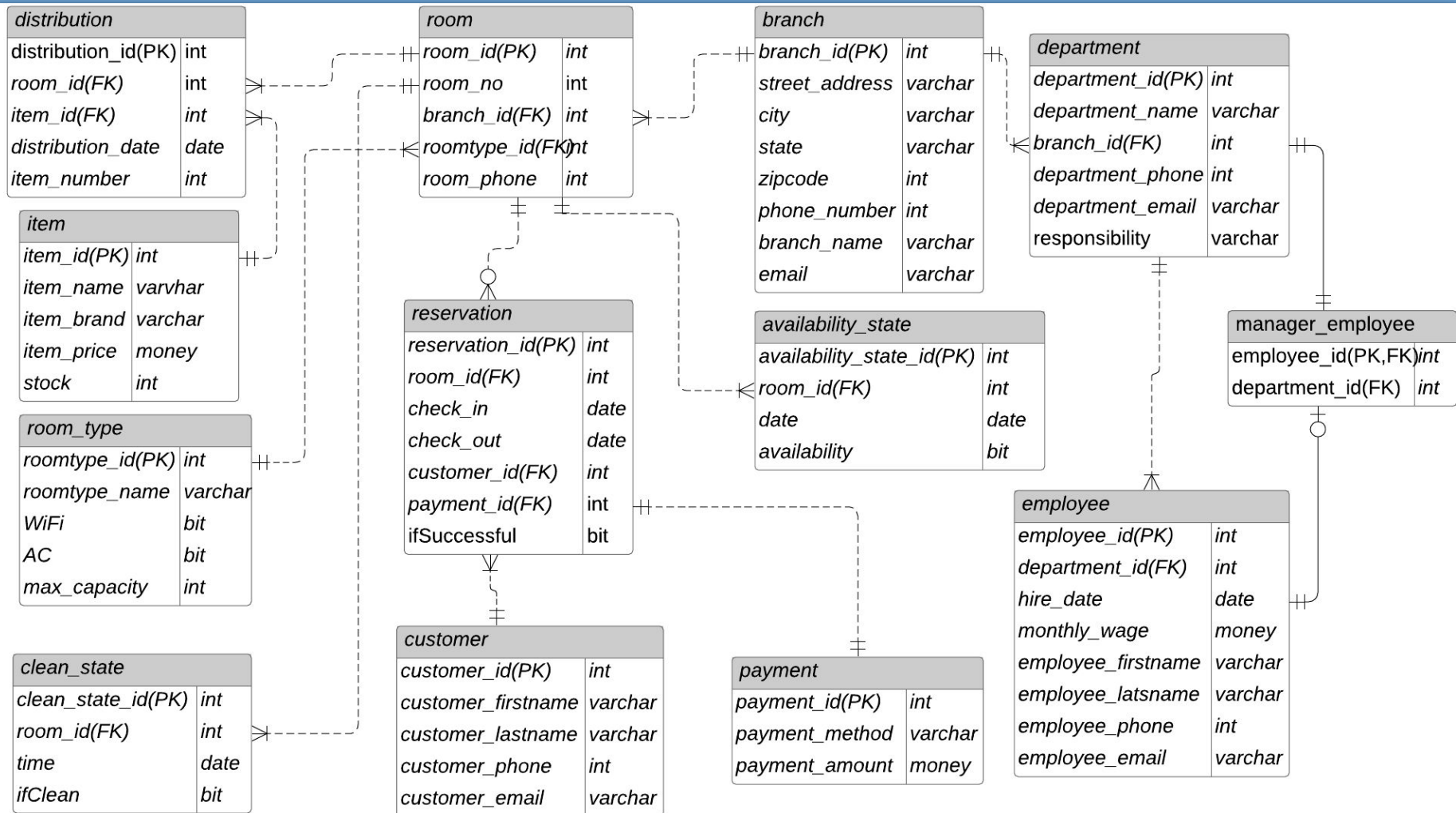
- **Business Problems Addressed**

- 1) Query/update ***real-time availability***
- 2) Query/update ***clean state*** of each room
- 3) Query/update ***distribution*** of daily supplies
- 4) Keep track of ***payment details*** of each reservation
- 5) Query/update ***department and employee*** information
- 6) Conduct ***data mining*** and ***business intelligence***

- **Business Rules**

Shown in ERD





SQL DDL statements

```
/* Create a database */
```

```
CREATE DATABASE Boba_Hotel_Management_System;
```

```
GO
```

```
USE Boba_Hotel_Management_System;
```

```
/* Create tables and insert data */
```

```
-- 1. Branch
```

```
CREATE TABLE dbo.Branch
```

```
(    branch_id INT NOT NULL PRIMARY KEY,  
  
    street_address VARCHAR(50) NOT NULL,  
  
    city VARCHAR(50) NOT NULL,  
  
    state VARCHAR(50) NOT NULL,  
  
    zipcode INT NOT NULL,  
  
    phone_number INT NOT NULL,  
  
    branch_name VARCHAR(50) NOT NULL,  
  
    email VARCHAR(50) NOT NULL
```

```
);
```

Create a view to see the information about manager

```
CREATE VIEW vwManagerInformation  
AS
```

```
SELECT  
e.employee_id,e.employee_firstname,  
E.employee_lastname,e.monthly_wage,  
d.department_name
```

```
FROM dbo.employee e
```

```
JOIN dbo.department d
```

```
ON e.department_id = d.department_id
```

```
SELECT * FROM vwManagerInformation
```

123 employee_id	ABC employee_firstname	ABC employee_lastname	monthly_wage	ABC department_name
1	David	Chicken	9800.0000	Executives
1,001	Amanda	Lee	4300.0000	Front Desk Services
2,001	Steven	Niu	5200.0000	Housekeeping
3,001	Linda	Von	8855.0000	Maintenance
4,001	Selina	Klevi	4500.0000	Accounting
5,001	Vera	Wong	8600.0000	Marketing & Sales
6,001	Gia	Pan	5600.0000	Kitchen Staff
7,001	Leon	Qiu	4900.0000	Security
8,001	Rachel	Dela	6500.0000	Purchasing
9,001	Michel	Deng	5600.0000	Afterservice

Create a view to show all booked room (including room_id, branch_id) in Jan 2020

CREATE VIEW vwBookedRoom
AS

```
SELECT r.room_id, b.branch_id, s.availability_date  
FROM dbo.Room r  
INNER JOIN dbo.Branch b  
ON r.branch_id = b.branch_id  
INNER JOIN dbo.AvailabilityState s  
ON r.room_id = s.room_id  
AND s.availability = 0  
AND s.availability_date >= '2020-01-01'  
AND s.availability_date <= '2020-01-31';
```

SELECT * FROM vwBookedRoom;

123 room_id	123 branch_id	availability_date
1	1	2020-01-01
2	1	2020-01-02
3	1	2020-01-03
4	1	2020-01-04
5	1	2020-01-05
7	1	2020-01-06
8	1	2020-01-07
9	1	2020-01-08
10	1	2020-01-09
6	1	2020-01-10

Table-level CHECK constraint - check whether a manager gets reasonable wage

If a manager has lower wage, function will return a number greater than 0

```
CREATE FUNCTION CheckWage(@employee_id int)
RETURNS smallint
AS
BEGIN
    DECLARE @Count smallint = 0
    SELECT @Count = COUNT(employee_id)
        FROM Employee
        WHERE employee_id = @employee_id AND
        monthly_wage < 5000 ;
    RETURN @Count
END;
```

```
ALTER TABLE Employee ADD CONSTRAINT
CheckLowerWage CHECK(dbo.CheckWage(employee_id)= 0);
```

INSERT into

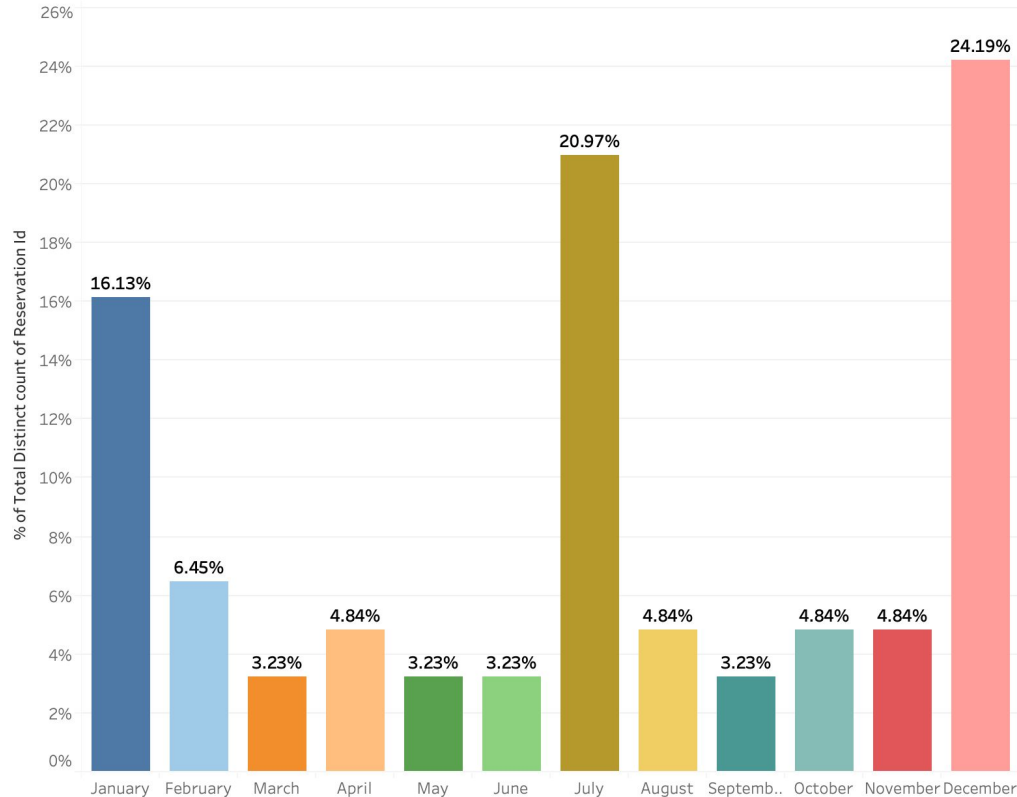
```
dbo.Employee(employee_id,department_id,hire_date,monthly_wage,employ
ee_firstname,employee_lastname,employee_phone,employee_email)
VALUES
(1001,96110,'2015-08-09',4300,'Amanda','Lee',86911,'amanda345@gmail.co
m')
```



SQL Error [547] [23000]: The INSERT statement conflicted with the CHECK constraint "CheckLowerWage". The conflict occurred in database "Boba_Hotel_Management_System", table "dbo.Employee", column 'employee_id'.

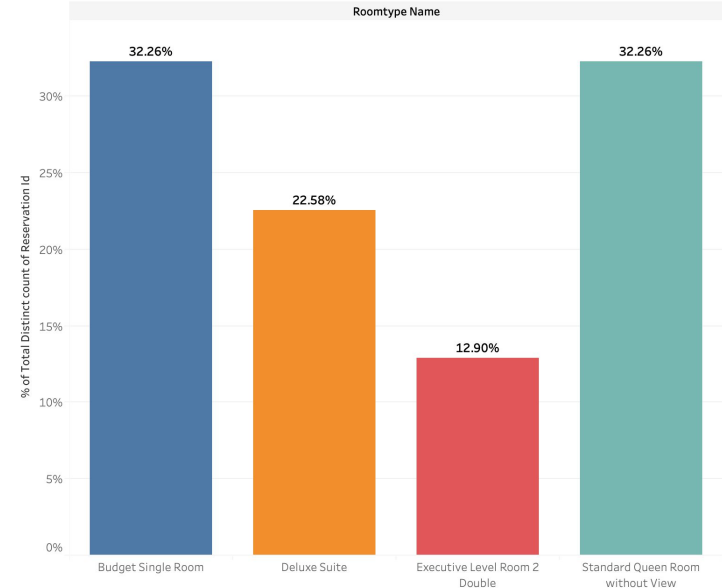
Data Mining

check_in

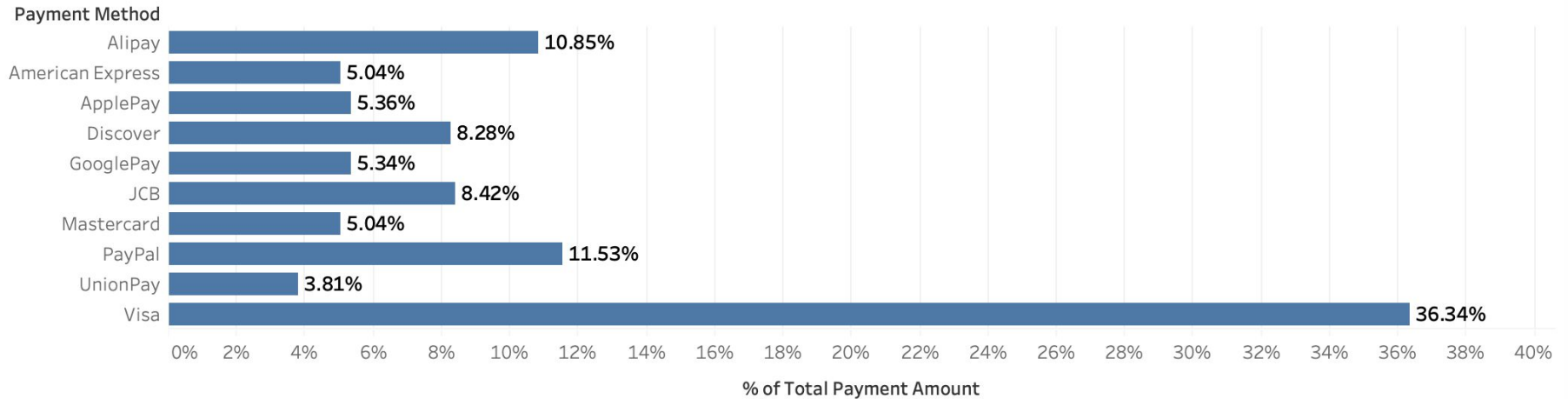


+tableau®

Roomtype Name



Data Mining



THANK YOU!

