



# EVENT MANAGEMENT DATABASE SYSTEM

DAMG6210 - Database Management and Database Design

GROUP NUMBER: 15

*Presented by:*

Sharan Kumar Prabhakaran  
Yashaswani Naga Parnika  
Harshika Golkonda  
Santosh Rayana





# ROLE OF DATABASE IN EVENT MANAGEMENT SYSTEM

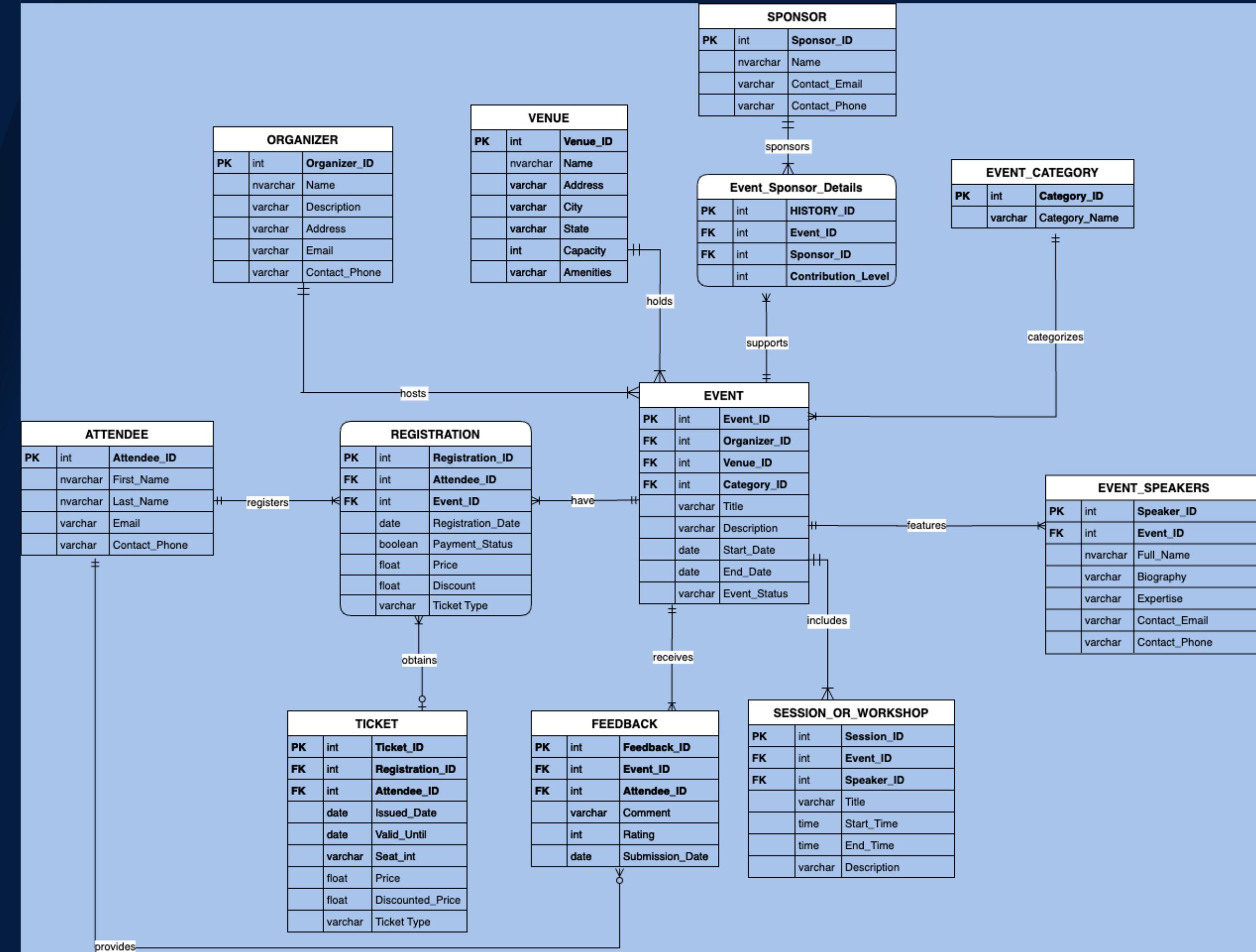
## ABOUT

- A comprehensive database management application designed to streamline event organization, coordination, and management.
- Aims to serve event planners, organizers, and attendees by offering a centralized platform for event-related tasks.

## PURPOSE

- To provide a user-friendly system for managing all aspects of event planning and coordination.
- It enhances the attendee experience by providing seamless registration processes and interactive features such as feedback forms.
- To Efficiently manage the participant data, registration, and attendance.
- To Reduce the manual effort and saves time in organizing events.
- To facilitate data-driven decision-making and strategic planning through comprehensive reporting and analysis.
- Technologies Used:
- Frontend: Python with the Tkinter library for a graphical user interface.
- Backend: Microsoft SQL Server for database management.

# ERD



## PROCEDURE TO RETRIEVE EVENT DETAILS

```
-- Stored Procedure 2: Procedure to retrieve details of an event
CREATE PROCEDURE GetEventDetails
    @EventID INT -- The ID of the event to get details for
AS
BEGIN
    -- Retrieve Organizer's Details
    SELECT o.Organizer_ID, o.Name, o.Description
    FROM Organizer o
    JOIN Event e ON o.Organizer_ID = e.Organizer_ID
    WHERE e.Event_ID = @EventID;

    -- Retrieve Sponsors Details
    SELECT s.Sponsor_ID, s.Name, s.Contact_Email_Encrypted, s.Contact_Phone_Encrypted
    FROM Sponsor s
    JOIN Event_Sponsor_Details esd ON s.Sponsor_ID = esd.Sponsor_ID
    WHERE esd.Event_ID = @EventID;

    -- Retrieve Speakers Details
    SELECT sp.Speakers_ID, sp.Full_Name, sp.Biography, sp.Expertise
    FROM Event_Speakers sp
    WHERE sp.Event_ID = @EventID;
END;
GO
```

Results Messages

Organizer_ID	Name	Description
1	Global Tech Conferences	An international organizer for technology conference...

Sponsor_ID	Name	Contact_Email_Encrypted	Contact_Phone_Encrypted
1	InnovateTech	0x0021D35245BFD34E97DA0EDCBB0BFDA020000095413F92D...	0x0021D35245BFD34E97DA0EDCBB0BFDA0200000E1DA29B7B3...
2	HealthPlus	0x0021D35245BFD34E97DA0EDCBB0BFDA02000008D9B96EEE2...	0x0021D35245BFD34E97DA0EDCBB0BFDA0200000D6E5BEA983...

Speakers_ID	Full_Name	Biography	Expertise
1	Alex Johnson	An experienced tech innovator and speaker.	Technology & Innovation
18	Brianna Norman	Brianna Norman with 12 years of experience in the fi...	Technology & Innovation
19	Barbara Graham	Barbara Graham with 12 years of experience in the fi...	Education & Learning
24	Michele Morgan	Michele Morgan with 19 years of experience in the fi...	Arts & Culture

## PROCEDURE TO GET SESSIONS BY EVENT CATEGORY

```
-- Stored Procedure 3: Procedure to retrieve sessions by event category
CREATE PROCEDURE GetSessionsByEventCategory
    @CategoryID INT -- The ID of the event category to filter sessions by
AS
BEGIN
    -- Retrieve sessions details along with linked event details
    SELECT
        E.Title AS EventTitle,
        SW.Title AS SessionTitle,
        SW.Start_Time,
        SW.End_Time,
        SW.Description
    FROM Session_or_Workshop AS SW
    INNER JOIN Event AS E ON SW.Event_ID = E.Event_ID
    WHERE E.Category_ID = @CategoryID
    ORDER BY SW.Start_Time;
END;
GO
-- Execute the procedure to get sessions by event category
EXEC GetSessionsByEventCategory @CategoryID = 1;
```

Results Messages

EventTitle	SessionTitle	Start_Time	End_Time	Description
Global Tech Symposium	Innovative Tech Trends	09:00:00	10:30:00	Exploring the latest trends in technology and innova...
Global Tech Symposium	Modern Web Development Techniques	09:00:00	12:00:00	Understanding the basics of cryptocurrencies and how...
Global Tech Symposium	Blockchain Basics	11:00:00	12:30:00	An introduction to blockchain technology and its app...
Global Tech Symposium	Yoga and Wellness	12:00:00	13:00:00	Explore how urban farming is changing the landscape ...

## TABLE LEVEL CHECK CONSTRAINTS

```
-- Table-level CHECK Constraints
-- 1. Check Constraint on Event : Ensures that the event start date is before the end date.
ALTER TABLE Event
ADD CONSTRAINT CHK_Event_Dates CHECK (Start_Date < End_Date);
GO
SELECT * FROM Event;
GO
```

---

```
-- 2. Check Constraint on Ticket : Ensures that ticket prices are non-negative.
```

```
ALTER TABLE Ticket
ADD CONSTRAINT CHK_Ticket_Price CHECK (Price >= 0);
GO
```

---

```
-- 3. Check Constraint on Feedback : Ensures that feedback ratings are between 1 and 5.
```

```
ALTER TABLE Feedback
ADD CONSTRAINT CHK_Feedback_Rating CHECK (Rating BETWEEN 1 AND 5);
GO
```

# ◆ ENCRYPTION

# NON CLUSTERED INDEX

```
-- Encryption

CREATE MASTER KEY ENCRYPTION BY PASSWORD = 'Grp_15_Column_Encryption';
CREATE CERTIFICATE MyCertificate WITH SUBJECT = 'Column Encryption';

CREATE SYMMETRIC KEY MySymmetricKey
WITH ALGORITHM = AES_256
ENCRYPTION BY CERTIFICATE MyCertificate;

ALTER TABLE EVENT_SPEAKERS ADD Contact_Email_Encrypted VARBINARY(MAX);
ALTER TABLE EVENT_SPEAKERS ADD Contact_Phone_Encrypted VARBINARY(MAX);

OPEN SYMMETRIC KEY MySymmetricKey DECRYPTION BY CERTIFICATE MyCertificate;

-- Update encrypted data for ATTENDEE table

UPDATE EVENT_SPEAKERS
SET Contact_Email_Encrypted = EncryptByKey(Key_GUID('MySymmetricKey'), Contact_Email),
    Contact_Phone_Encrypted = EncryptByKey(Key_GUID('MySymmetricKey'), Contact_Phone);

CLOSE SYMMETRIC KEY MySymmetricKey;
go
SELECT Speakers_ID,Event_ID,
       Full_Name,
       Biography,
       Expertise ,Contact_Email_Encrypted,Contact_Phone_Encrypted
  FROM Event_Speakers;
```

Results Messages			
	Contact_Email_Encrypted	Contact_Phone_Encrypted	
Technology & Innovation	0x0021D35245BFD34E97DA0EDCBB0BFDA02000005C776A572...	0x0021D35245BFD34E97DA0EDCBB0BFDA0200000D1D526FCFE...	
Health & Wellness	0x0021D35245BFD34E97DA0EDCBB0BFDA02000003CAC8EC9BA...	0x0021D35245BFD34E97DA0EDCBB0BFDA02000007D63D01D19...	

## TICKET SALES ANALYSIS VIEW

```
-- View 5 : Ticket Sales Analysis View
CREATE VIEW Ticket_Sales_Analysis AS
SELECT
    e.Event_ID,
    e.Title,
    COUNT(t.Ticket_ID) AS Total_Tickets_Sold,
    CONCAT('$', COALESCE(SUM(t.Discounted_Price), 0)) AS Total_Sales
FROM
    Event e
LEFT JOIN
    Registration r ON e.Event_ID = r.Event_ID
LEFT JOIN
    Ticket t ON r.Registration_ID = t.Registration_ID
GROUP BY
    e.Event_ID,
    e.Title;
GO
```

```
SELECT * FROM Ticket_Sales_Analysis
```

Results Messages			
Event_ID	Title	Total_Tickets_Sold	Total_Sales
1	Global Tech Symposium	7	\$414
2	Wellness and Health Expo	4	\$456

```
5 -- 1. Create a nonclustered index on Event table for Organizer_ID column
6 CREATE NONCLUSTERED INDEX idx_event_organizer_id ON Event (Organizer_ID);
7 SELECT * FROM Event WHERE Organizer_ID = 2;
8
9
10
11 -- 2. Create a nonclustered index on Event table for Venue_ID column
12 CREATE NONCLUSTERED INDEX idx_event_venue_id ON Event (Venue_ID);
13 SELECT * FROM Event WHERE Venue_ID = 1;
14
15
16 -- 3. Create a nonclustered index on Registration table for Event_ID column
17 CREATE NONCLUSTERED INDEX idx_registration_event_id ON Registration (Event_ID);
18 SELECT COUNT(*) AS Result FROM Registration WHERE Event_ID = 1;
19 SELECT * FROM Event WHERE Venue_ID = 1;
20 SELECT * FROM Event WHERE Organizer_ID = 2;
```

Results Messages	
Result	
1	4

Category_ID	Title	Description	Start_Date	End_Date	Event_Status
1	Global Tech Symposium	A symposium showcasing cutting-edge technology innov...	2024-05-15	2024-05-17	Scheduled
9	Science Research Conference	A conference presenting the latest findings in scien...	2025-01-20	2025-01-22	Scheduled

Event_ID	Category_ID	Title	Description	Start_Date	End_Date	Event_Status
2	Wellness and Health Expo	Exploring the latest trends in wellness and health.	2024-06-20	2024-06-22	Scheduled	

## EVENT SUMMARY VIEW

```
-- View 1 : Event Summary including Ratings View
CREATE VIEW Event_Summary AS
SELECT
    e.Event_ID, e.Title, e.Start_Date, e.End_Date, v.Name AS Venue, v.City, v.State, COUNT(r.Registration_ID) AS Registrations,
    COALESCE(AVG(f.Rating), 0) AS Average_Rating,
    CASE
        WHEN COALESCE(AVG(f.Rating), 0) = 0 THEN 0
        ELSE DENSE_RANK() OVER (ORDER BY AVG(f.Rating) DESC)
    END AS Ranking
FROM Event e
INNER JOIN Venue v ON e.Venue_ID = v.Venue_ID
LEFT JOIN Registration r ON e.Event_ID = r.Event_ID
LEFT JOIN Feedback f ON e.Event_ID = f.Event_ID
GROUP BY
    e.Event_ID, e.Title, e.Start_Date, e.End_Date, v.Name, v.City, v.State;
GO

SELECT * FROM Event_Summary;
```

Event_ID	Title	Start_Date	End_Date	Venue	City	State	Registrations
6	Culinary Arts Show	2024-10-25	2024-10-27	Starlight Ballroom	Star City	Rhode Island	6
10	Media and Entertainment Expo	2025-02-15	2025-02-17	Riverside Convention Center	Lakeside	Massachusetts	9
4	Learning & Development Conference	2024-08-15	2024-08-17	Skyline Banquet	Uptown	Massachusetts	3
5	Annual Sports Summit	2024-09-10	2024-09-12	Green Outdoor Park	Greenville	Massachusetts	9
1	Global Tech Symposium	2024-05-15	2024-05-17	The Grand Hall	Metropolis	Rhode Island	24

```

5 -- UDF 1: Computing Discounted Price
6 CREATE FUNCTION dbo.ComputeDiscountedPrice (@Price FLOAT, @DiscountRate FLOAT)
7 RETURNS FLOAT
8 AS
9 BEGIN
10    DECLARE @DiscountedPrice FLOAT;
11    SET @DiscountedPrice = @Price - (@Price * @DiscountRate);
12    RETURN @DiscountedPrice;
13 END;
14 GO
15
16 -- Adding computed column based on UDF to the Ticket table
17 ALTER TABLE Ticket
18 ADD DiscountedPrice AS dbo.ComputeDiscountedPrice(Price, 0.1); -- Assuming a 10% discount for demonstration purposes
19 GO
20
21 SELECT * FROM Ticket;
22 GO
23

```

Results Messages

	Ticket_ID	Registration_ID	Attendee_ID	Issue_Date	Valid_Until	Seat_Number	Price	Discounted_Price	Ticket_Type
1	1	1	1	2024-05-01	2024-06-10	A1	100	90	Standard
2	2	2	2	2024-05-02	2024-06-10	A2	150	120	VIP
3	3	3	3	2024-05-03	2024-06-20	B1	100	90	Standard
4	4	4	4	2024-05-04	2024-06-20	B2	150	120	VIP

## DISCOUNTED PRICE UDF

## TICKET GENERATION TRIGGER

```

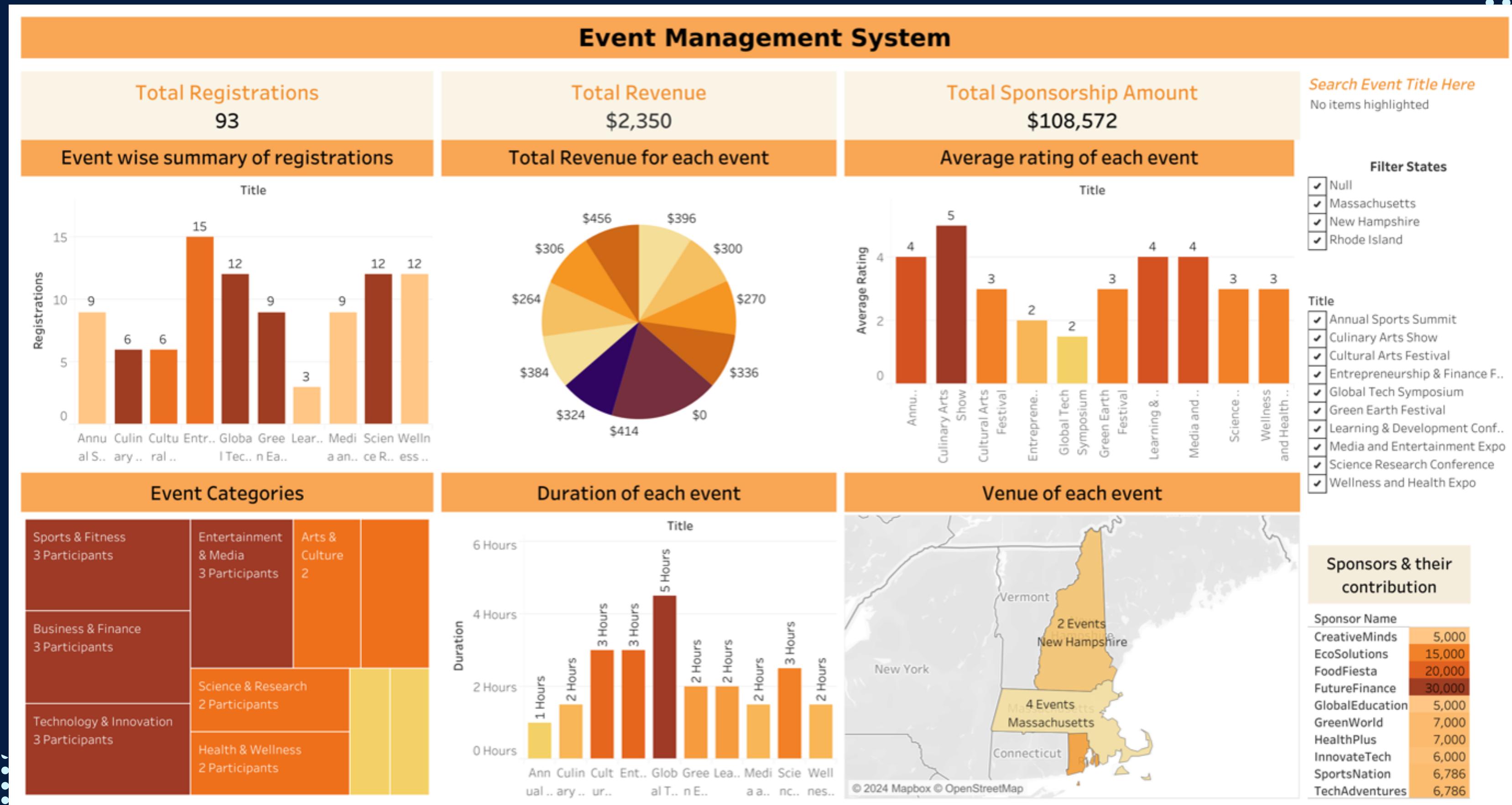
-- Trigger 3 Create a Ticket only when the Payment status is '1'
CREATE TRIGGER InsertTicketOnPayment
ON Registration
AFTER INSERT
AS
BEGIN
    SET NOCOUNT ON;
    -- Check if the payment status is 1 for the inserted registration
    IF EXISTS (SELECT 1 FROM inserted WHERE Payment_Status = 1)
    BEGIN
        -- Insert a corresponding ticket record for the registered attendee
        INSERT INTO Ticket (Registration_ID, Attendee_ID, Issue_Date, Valid_Until, Seat_Number, Price, Discounted_Price, Ticket_Type)
        SELECT i.Registration_ID, i.Attendee_ID, GETDATE() AS Issue_Date, DATEADD(MONTH, 1, GETDATE()) AS Valid_Until,
               CHAR(65 + ABS(CHECKSUM(NEWID())) % 3) + CAST(ABS(CHECKSUM(NEWID())) % 10 AS VARCHAR(2)) AS Seat_Number,
               i.Price AS Price, dbo.ComputeDiscountedPrice(Price, i.Discount) AS Discounted_Price, i.Ticket_Type AS Ticket_Type
        FROM inserted i
        WHERE i.Payment_Status = 1;
    END
    ELSE
    BEGIN
        -- Display message for unsuccessful registration due to payment status
        PRINT 'The Registration was unsuccessful for the event. Payment status is 0.';
    END;
END;
INSERT INTO Registration (Event_ID, Attendee_ID, Registration_Date, Payment_Status, Price, Discount, Ticket_Type)
VALUES (1, 1, '2024-09-01', 1, 1500, 0.10, 'VIP'); -- Assuming Payment_Status 1 indicates successful payment
GO

```

Results Messages

Attendee_ID	Issue_Date	Valid_Until	Seat_Number	Price	Discounted_Price	Ticket_Type	DiscountedPrice	TicketValue
	2024-06-16	2025-02-10	M2	180	108	VIP	162	Valid
	2024-06-17	2025-03-01	N1	120	72	Standard	108	Valid
	2024-06-18	2025-03-01	N2	180	108	VIP	162	Valid
	2024-06-19	2025-04-05	01	120	72	Standard	108	Valid
	2024-06-20	2025-04-05	02	180	108	VIP	162	Valid
	2024-05-01	2024-07-10	A1	100	90	Standard	90	Valid
	2024-05-02	2024-08-10	A2	150	120	VIP	135	Valid
	2024-05-03	2024-09-20	B1	100	90	Standard	90	Valid
	2024-05-04	2024-10-20	B2	150	120	VIP	135	Valid

# DASHBOARD



# EVENT MANAGEMENT GUI

## Dashboard

Events

Organizers

Venue

Reports

Registration

## ATTENDEE REGISTRATION SUMMARY

Report Viewer				
Attendee ID	First Name	Last Name	Total Registrations	Registered Events
1	Emma	Johnson	5	Global Tech Symposium, Annual Sports Summ
2	Liam	Smith	2	Wellness and Health Expo, Entrepreneurship &
3	Olivia	Williams	3	Green Earth Festival, Green Earth Festival, Mec
4	Noah	Brown	1	Learning & Development Conference
5	Ava	Jones	3	Annual Sports Summit, Wellness and Health Ex
6	Oliver	Garcia	4	Culinary Arts Show, Science Research Confere
7	Isabella	Miller	3	Cultural Arts Festival, Culinary Arts Show, Glob
8	Elijah	Davis	3	Entrepreneurship & Finance Forum, Entreprene
9	Sophia	Rodriguez	3	Science Research Conference, Global Tech Sy
10	Logan	Martinez	4	Media and Entertainment Expo, Entrepreneur

## EVENT CRUD OPERATIONS

Organizer ID:

Venue ID:

Category ID:

Title:

Description:

Start Date (YYYY-MM-DD):

End Date (YYYY-MM-DD):

Event Status:

Event ID	Organizer ID	Venue ID	Category ID	Title	Description	Start Date	End Date	Event Status
1	1	1	1	Global Tech Symposium	A symposium showcasing cutting-edge technolog	2024-05-15	2024-05-17	Scheduled
2	2	2	2	Wellness and Health Expo	Exploring the latest trends in wellness and health.	2024-06-20	2024-06-22	Scheduled
3	3	3	3	Green Earth Festival	A celebration of sustainable living and green tech.	2024-07-05	2024-07-07	Cancelled
4	4	4	4	Learning & Development Conference	A conference dedicated to innovations in educat	2024-08-15	2024-08-17	Scheduled
5	5	5	5	Annual Sports Summit	A summit focusing on the future of sports and fit	2024-09-10	2024-09-12	Scheduled
6	6	6	6	Culinary Arts Show	Showcasing the latest trends and techniques in th	2024-10-05	2024-10-07	Scheduled

## SPEAKER CONTRIBUTION SUMMARY

Report Viewer						
Event Summary		Sponsor Contribution Summary	Attendee Registration Summary	Event Feedback Analysis	Ticket Sales Analysis	Speaker Engagement
Event ID	Event Title	Speaker Name	Sessions Spoken			
1	Global Tech Symposium	Alex Johnson	4			
1	Global Tech Symposium	Barbara Graham	4			
1	Global Tech Symposium	Brianna Norman	4			
1	Global Tech Symposium	Michele Morgan	4			
2	Wellness and Health Expo	Denise Steele	1			
2	Wellness and Health Expo	Samantha Green	1			
3	Green Earth Festival	Chris Blue	4			
3	Green Earth Festival	Connie Garcia	4			
3	Green Earth Festival	John Walker	4			
4	Learning & Development Conference	Anthony Berry	3			
4	Learning & Development Conference	Cole White	3			
4	Learning & Development Conference	Jamie Rivera	3			
4	Learning & Development Conference	Joseph McKay	3			
4	Learning & Development Conference	Stephanie Williams	3			
4	Learning & Development Conference	Tracy Mendoza	3			
5	Annual Sports Summit	Jordan Casey	1			
5	Annual Sports Summit	Kevin Grant	1			
6	Culinary Arts Show	Jacob Rice	3			
6	Culinary Arts Show	Taylor Reed	3			