

CSC104-Database Systems Mid Project Report (Spring 2025)



Student Details

Repository Name	DBS25P144
Registration Number	2024-CS-144

Project	
Project Title	Project A: ITEC Event Management System
Executive Summary	The Information Technology Exhibition and Competition (ITEC) is an annual event organized by the Department of Computer Science, UET Lahore. It includes competitions, exhibitions, seminars, and non-tech events, managed by faculty and students through different committees. Currently, event management is done manually using spreadsheets, emails, and physical records, which leads to data errors, scheduling conflicts, financial tracking issues, and difficulty in managing committees. To solve these problems, a Windows Form Application using C# and MySQL are made to solve and managed these event management process. The main features are Manage ITEC Editions – Create and handle different editions like ITEC 2024,2023etc that are linking events, participants, and finances. Event Organization – Add, update, and delete or remove competitions, exhibitions, and seminars while assigning committees. Participant Registration & Fee Tracking – Register students, professionals, guest speakers, and judges, track event participation, and manage payments. Committee & Role Assignment – Assign faculty and students to different committees with different roles and responsibilities. Task Assignment & Tracking – Assign the duties for committee members. Financial Management – Record sponsorships, ticket sales, and event expenses while generating financial reports. Venue Scheduling – Allocate venues in event schedules. Event Results & Ranking – Store competition results. Automated Reports – Generate detailed reports on participants, committees, finances, and event schedules. This system will reduce manual effort, improve accuracy, and make event management easier and more efficient, ensuring a well-organized and successful ITEC event each year.

DASHBOARD			
EVENTS		ITEC EVENTS	
FINANCES			
COMMITTEES	EVENT	Participant Registration	Committee And Role
PARTICIPANT REGISTRATION	MANAGEMENTS	And Fee Tracking	Management
DUTIES			
VENUES			
RESULTS			FINANCIAL
REPORTS	DUTIES ASSIGNMENT AND TRACKING	VENUE ALLOCATIONS	MANAGEMENTS AND SPONSERSHIP
USER LOGIN			
EDITIONS			
UI Component Name	Type of UI	Class Attribute name,	Linked to which database
	component	Classname, attribute name	column/table
DASHBOARD	Button	button1, ITEC linked with	None
		itself	
EVENTS	Button	button2, ITEC linked with	itec_events
		Events	
FINANCES	Button	button3, ITEC linked with	finances
COMMETTEE	D	Finances	•
COMMITTEES	Button	button4, ITEC linked with Committee	committees
PARTICIPANT	Button	button5, ITEC linked with	participants, event_participants
REGISTRATION	Dutton	Participants	participants, event_participants
DUTIES	Button	button6, ITEC linked with	duties
		Duty	
VENUES	Button	button7, ITEC linked with	venues
		Venue	
RESULTS	Button	button8, ITEC linked with	event_results
		Result	
REPORTS	Button	button9, ITEC linked with	All tables
HIGER LOCAL	Desti a re	Report Indicated the land of t	
USER LOGIN	Button	button10, ITEC linked with	users
		User	
EDITIONS	Button	Button11, ITEC linked with	itec_editions

ITEC EDITIONS	
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BACK		ITEC EDITIONS MAN	NAGEMENT
	SELECT EDITION	V	
	EDITION YEAR	1	гнеме
	DESCRIPTION		ADD UPDATE DELETE
UI Component Name	Type of UI	Class Attribute name,	Linked to which database
UI Component Name	component	Classname, attribute name	Linked to which database column/table
UI Component Name SELECT EDITION	1	_	
	component	Classname, attribute name	column/table itec_id, year
SELECT EDITION	component ComboBox	Classname, attribute name combobox 1, ITEC Editions	column/table
SELECT EDITION EDITION YEAR	component ComboBox TextBox	Classname, attribute name combobox1, ITEC Editions textbox1, ITEC Editions	column/table itec_id, year year
SELECT EDITION EDITION YEAR THEME	component ComboBox TextBox TextBox	Classname, attribute name combobox1, ITEC Editions textbox1, ITEC Editions textbox2, ITEC Editions textbox3, ITEC Editions button1, ITEC	column/table itec_id, year year theme
SELECT EDITION EDITION YEAR THEME DESCRIPTION ADD	Component ComboBox TextBox TextBox TextBox Button	Classname, attribute name combobox1, ITEC Editions textbox1, ITEC Editions textbox2, ITEC Editions textbox3, ITEC Editions button1, ITEC Editions	column/table itec_id, year year theme description INSERT into itec_editions
SELECT EDITION EDITION YEAR THEME DESCRIPTION ADD UPDATE	component ComboBox TextBox TextBox TextBox Button Button	Classname, attribute name combobox1, ITEC Editions textbox1, ITEC Editions textbox2, ITEC Editions textbox3, ITEC Editions button1, ITEC Editions button2, ITEC Editions	column/table itec_id, year year theme description INSERT into itec_editions DELETE from itec_editions
SELECT EDITION EDITION YEAR THEME DESCRIPTION ADD	Component ComboBox TextBox TextBox TextBox Button	Classname, attribute name combobox1, ITEC Editions textbox1, ITEC Editions textbox2, ITEC Editions textbox3, ITEC Editions button1, ITEC Editions	column/table itec_id, year year theme description INSERT into itec_editions

EVENTS	

Events		
BACK	EVENT MANAG	EMENT FORM
	EVENT NAME	
	EVENT CATEGORY	·
	DESCRIPTION	
	EVENT DATE AND TIME	Sunday , March 23, 2025 □▼
	VENUE	·
	ORGANIZING COMMITTEE	~
	ADD	UPDATE DELETE

UI Component Name	Type of UI	Class Attribute name,	Linked to which database
	component	Classname, attribute name	column/table
EVENT NAME	TextBox	textbox1, Events	event_name
EVENT CATEGORY	ComboBox	combobox1, Events	itec_events.event_category_id
			\rightarrow FK to
			event_categories.event_category
			_id
DESCRIPTION	TextBox	textbox2, Events	description
EVENT DATE AND	DateTimePicker	datetimepicker1, Events	event_date
TIME			
VENUE	ComboBox	combobox2, Events	itec_events.venue_id \rightarrow FK to
			venues.venue_id
ORGANIZING	ComboBox	combobox3, Events	itec_events.committee_id \rightarrow FK
COMMITTEE			to committees.committee_id
ADD	Button	button1, Events	INSERT into itec_events
UPDATE	Button	button2, Events	UPDATE on itec_events
DELETE	Button	button3, Events	DELETE from itec_events
BACK	Button	button4, Events	Navigation only
Grid View	DataGridView	dataGridView1, Events	Shows itec_events joined with
			categories, venues, committee

SELECT * FROM itec_events

SELECT event_category_id, category_name FROM event_categories

SELECT venue_id, venue_name FROM venues

SELECT committee_id, committee_name FROM committees

SELECT

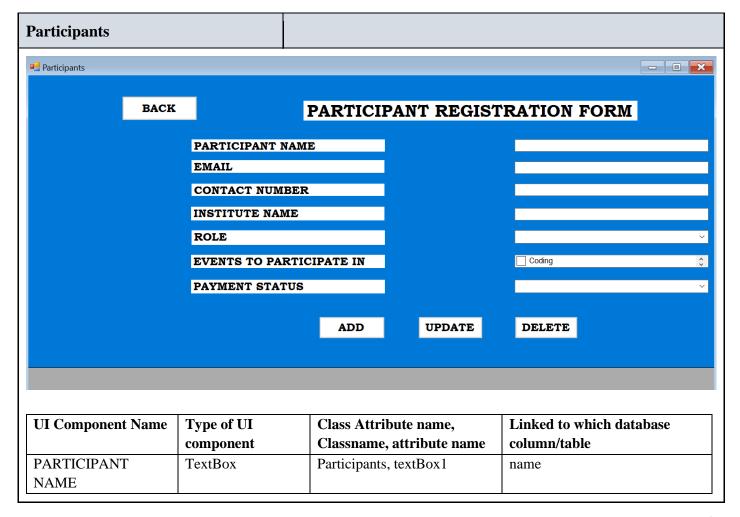
e.event_id,

e.event_name,

ec.category_name AS category,

e.description,

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e.event_date,
  v.venue_name AS venue,
  c.committee name AS committee,
  e.event_category_id, e.venue_id, e.committee_id
FROM itec_events e
JOIN event_categories ec ON e.event_category_id = ec.event_category_id
JOIN venues v ON e.venue_id = v.venue_id
JOIN committees c ON e.committee_id = c.committee_id
INSERT INTO itec events (event name, event category id, description, event date, venue id, committee id)
VALUES (@name, @category, @desc, @date, @venue, @committee)
UPDATE itec_events SET
         event_name = @name,
         event_category_id = @category,
         description = @desc,
         event_date = @date,
         venue id = @venue,
         committee id = @committee
         WHERE event_id = @id
DELETE FROM itec_events WHERE event_id = @id
```



F		T	Τ
EMAIL	TextBox	Participants, textBox2	email
CONTACT NUMBER	TextBox	Participants, textBox3	contact
INSTITUTE NAME	TextBox	Participants, textBox4	institute
ROLE	ComboBox	Participants,	event_participants.event_id
		checkedListBox1	
EVENTS TO	CheckedListBox	Participants,	event_participants.event_id
PARTICIPATE IN		checkedListBox1	
PAYMENT STATUS	ComboBox	Participants, comboBox2	event_participants.payment_stat
			us_id \rightarrow FK to lookup
ADD	Button	Participants, button1	Inserts into participants and
			event_participants
UPDATE	Button	Participants, button2	Updates participants table based
			on name
DELETE	Button	Participants, button3	Deletes from participants table
			based on name
BACK	Button	Participants, button4	Navigation (back to Form1)
Grid View	DataGridView	Participants, dataGridView1	Displays participants table

INSERT INTO participants (itec_id, name, email, contact, institute, role_id) " +

"VALUES (@itec_id, @name, @email, @contact, @institute, @role_id)"

INSERT INTO event_participants (event_id, participant_id, payment_status_id, fee_amount) " +

"VALUES (@event_id, @participant_id, @payment_status_id,

@fee_amount)"

"UPDATE participants SET email=@email, contact=@contact, institute=@institute, role_id=@role_id " + "WHERE name=@name"

DELETE FROM participants WHERE name=@name

SELECT * FROM participants

SELECT value FROM lookup WHERE category = 'role'

SELECT value FROM lookup WHERE category = 'payment_status'

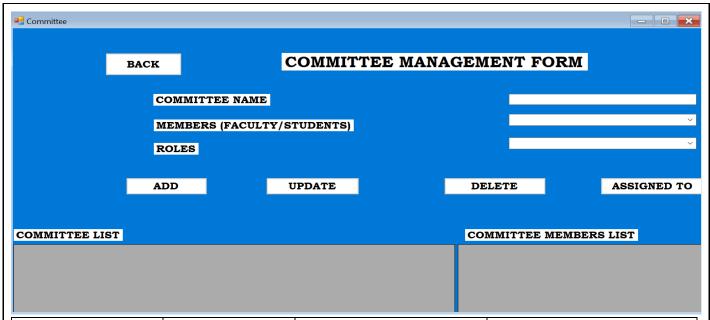
SELECT event_name FROM itec_events

SELECT lookup_id FROM lookup WHERE category = 'role' AND value = @value

SELECT lookup_id FROM lookup WHERE category = 'payment_status' AND value = @value

SELECT event_id FROM itec_events WHERE event_name = @value

Committee	
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UI Component Name	Type of UI	Class Attribute name,	Linked to which database
	component	Classname, attribute name	column/table
COMMITTEE NAME	TextBox	Committee, textBox1	committee_name
MEMBERS	ComboBox	Committee, comboBox1	Used for selecting existing
(FACULTY/STUDEN			committee to which members
TS)			will be assigned (binds to
			committee_id)
ROLES	ComboBox	Committee, comboBox2	committee_members.role_id \rightarrow
			FK to lookup (where category =
			'Role')
COMMITTEE LIST	DataGridView	Committee, dataGridView1	Displays committees table
COMMITTEE	DataGridView	Committee, dataGridView2	Displays committee_members
MEMBERS LIST			with name and joined role from
			lookup
ADD	Button	Committee, button1	Adds new record to committees
			table
UPDATE	Button	Committee, button2	Updates
			committees.committee_name
			based on selected row from
			dataGridView1
DELETE	Button	Committee, button3	Deletes record from committees
			(code mistakenly refers to ID
			instead of committee_id)
ASSIGNED TO	Button	Committee, button4	Adds member (name, role_id) to
			committee_members for selected
			committee
BACK	Button	Committee, button5	Returns to Form1

SELECT committee_id, committee_name FROM Committees

SELECT cm.member_id, cm.name, l.value AS role

FROM CommitteeMembers cm

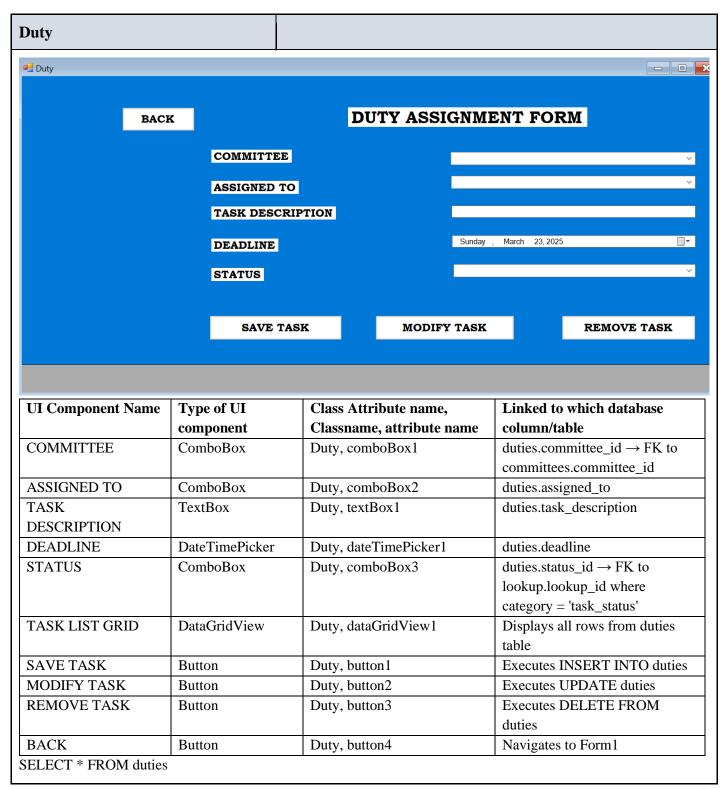
JOIN lookup l ON cm.role_id = l.lookup_id WHERE cm.committee_id = " + committeeId

SELECT lookup_id, value FROM lookup WHERE category = 'Role'

INSERT INTO Committees (committee_name) VALUES ('{name}')

UPDATE Committees SET committee_name = '{name}' WHERE committee_id = {id}

INSERT INTO CommitteeMembers (committee_id, name, role_id) VALUES (@committee_id, @name, @role_id)



SELECT committee_id, committee_name FROM committees

SELECT lookup_id, value FROM lookup WHERE category = 'task_status'

INSERT INTO duties (committee_id, assigned_to, task_description, deadline, status_id) " +

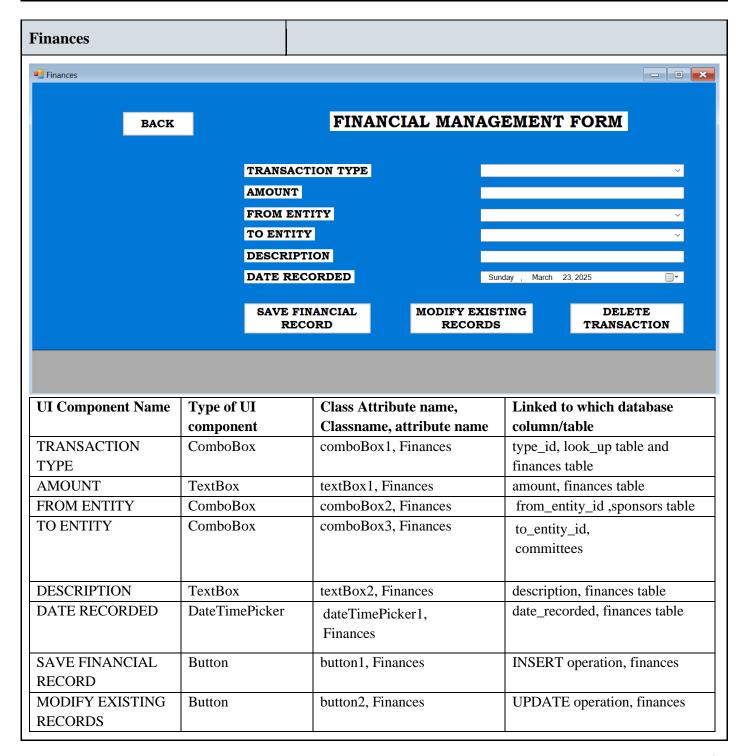
"VALUES (@committee_id, @assignedTo, @taskDescription, @deadline, @status_id)"

UPDATE duties SET committee_id = @committee_id, assigned_to = @assignedTo, " +

"task_description = @taskDescription, deadline = @deadline, status_id = @status_id " +

"WHERE duty_id = @dutyId"

DELETE FROM duties WHERE duty_id = @taskId



DELETE	Button	button3, Finances	DELETE operation, finances
TRANSACTION			
BACK	Button	button4, Finances	navigation
Data Grid View	DataGridView	dataGridView1, Finances	finances (joined with lookup,
			sponsors, committees, vendors)

SELECT

f.transaction_id,

1.value AS transaction_type,

f.amount,

s1.sponsor name AS from sponsor,

v1.vendor_name AS from_vendor,

c1.committee_name AS from_committee,

s2.sponsor_name AS to_sponsor,

v2.vendor_name AS to_vendor,

c2.committee_name AS to_committee,

f.description,

f.date_recorded

FROM finances f

LEFT JOIN lookup 1 ON f.type_id = l.type_id

LEFT JOIN sponsors s1 ON f.from_entity_type = 'Sponsor' AND f.from_entity_id = s1.sponsor_id

LEFT JOIN vendors v1 ON f.from_entity_type = 'Vendor' AND f.from_entity_id = v1.vendor_id

LEFT JOIN committees c1 ON f.from_entity_type = 'Committee' AND f.from_entity_id = c1.committee_id

LEFT JOIN sponsors s2 ON f.to_entity_type = 'Sponsor' AND f.to_entity_id = s2.sponsor_id

LEFT JOIN vendors v2 ON f.to_entity_type = 'Vendor' AND f.to_entity_id = v2.vendor_id

LEFT JOIN committees c2 ON f.to_entity_type = 'Committee' AND f.to_entity_id = c2.committee_id;

SELECT lookup_id AS type_id, value FROM lookup WHERE category = 'TransactionType'

SELECT sponsor id, sponsor name FROM sponsors

SELECT committee_id, committee_name FROM committees

INSERT INTO finances

(itec_id, event_id, type_id, amount, from_entity_type, from_entity_id, to_entity_type, to_entity_id, description, date_recorded)

VALUES (1, 1, @type_id, @amount, @from_entity_type, @from_entity_id, @to_entity_type, @to_entity_id, @description, @date_recorded);

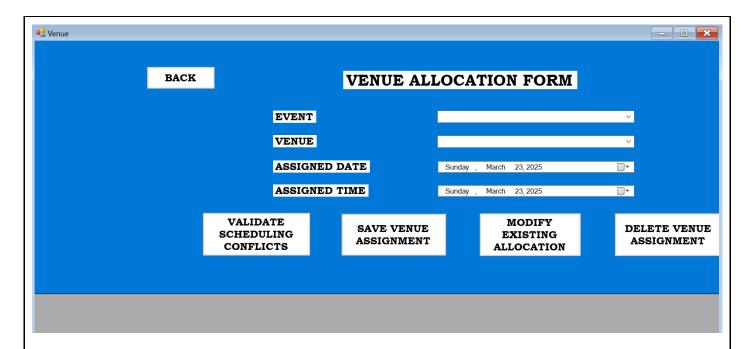
UPDATE finances SET type_id = @type_id, amount = @amount, from_entity_type = @from_entity_type, from entity id = @from entity id, " +

 $"to_entity_type = @to_entity_type, to_entity_id = @to_entity_id, description = @description, date_recorded = @date_recorded " + "to_entity_id = "date_recorded" + "to_entity_id = "date_recorded" + "to_entity_i$

"WHERE transaction_id = @transaction_id;

DELETE FROM finances WHERE transaction_id = @transaction_id

Venue	



UI Component Name	Type of UI	Class Attribute name,	Linked to which database
	component	Classname, attribute name	column/table
Event	ComboBox	comboBox1, Venue	event_id, event_name from
			itec_events
Venue	ComboBox	comboBox2, Venue	venue_id, venue_name from
			venues
Assigned Date	DateTimePicker	dateTimePicker1, Venue	assigned_date from
			venue_allocations
Assigned Time	DateTimePicker	dateTimePicker2, Venue	assigned_time from
			venue_allocations
Validate Scheduling	Button	button1, Venue	Validates using query on
Conflicts			venue_allocations
Save Venue	Button	button2, Venue	Inserts data into
Assignment			venue_allocations
Modify Existing	Button	button3, Venue	Updates record in
Allocation			venue_allocations
Delete Venue	Button	button4, Venue	Deletes record from
Assignment			venue_allocations
Back	Button	button5, Venue	Back to Form1
DataGrid	DataGridView	dataGridView1, Venue	Display data

SELECT event_id, event_name FROM itec_events;

SELECT venue_id, venue_name FROM venues;

 $SELECT\ va.venue_allocation_id,\ ev.event_name,\ v.venue_name,\ va.assigned_date,\ va.assigned_time$

FROM venue allocations va

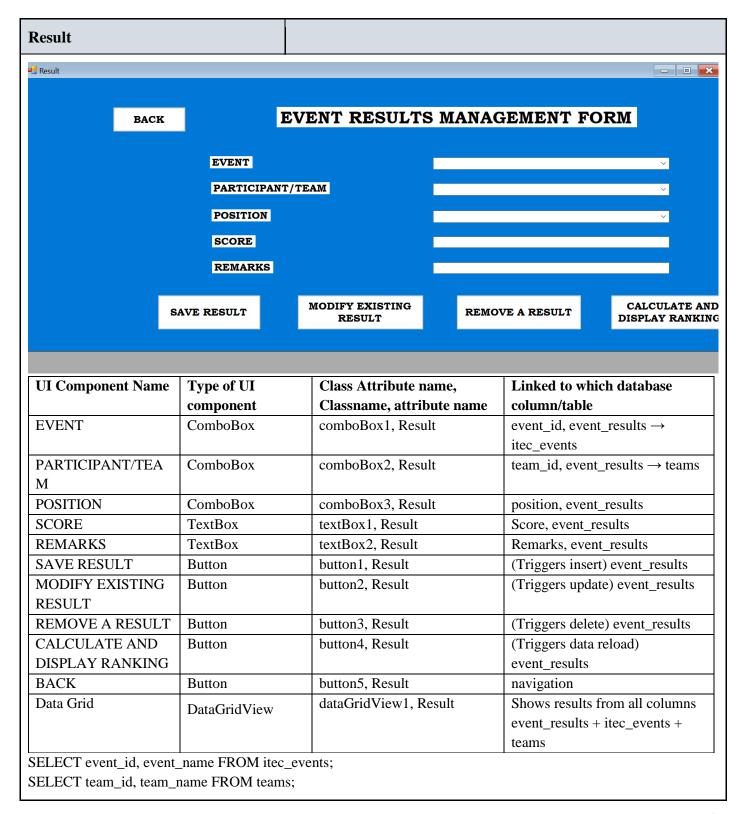
JOIN itec_events ev ON va.event_id = ev.event_id

JOIN venues v ON va.venue_id = v.venue_id;

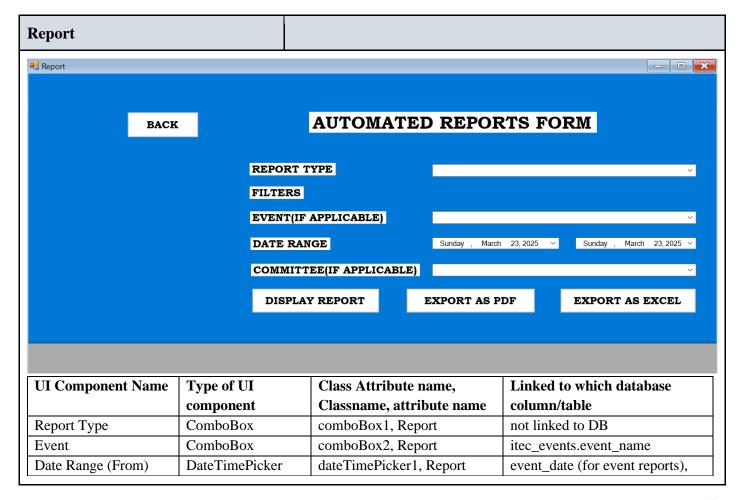
SELECT COUNT(*) FROM venue_allocations WHERE venue_id={venueId} AND assigned_date='{date}' AND assigned_time='{time}';

INSERT INTO venue_allocations (event_id, venue_id, assigned_date, assigned_time) VALUES ({eventId},

{venueId}, '{date}', '{time}');
UPDATE venue_allocations SET event_id={eventId}, venue_id={venueId}, assigned_date='{date}',
assigned_time='{time}' WHERE venue_allocation_id={id};
DELETE FROM venue_allocations WHERE venue_allocation_id={id};



```
SELECT
  er.result id,
  ev.event id,
  ev.event_name,
  t.team_id,
  t.team_name,
  er.position,
  er.score,
  er.remarks
FROM event_results er
JOIN itec_events ev ON er.event_id = ev.event_id
JOIN teams t ON er.team_id = t.team_id";
INSERT INTO event_results
             (event_id, team_id, position, score, remarks)
              VALUES (@event_id, @team_id, @position, @score, @remarks);
UPDATE event results
                  SET event id=@event id, team id=@team id,
                     position=@position, score=@score, remarks=@remarks
                  WHERE result id=@result id;
DELETE FROM event_results WHERE result_id=@result_id;
```



			date_recorded (for finances), etc.
Date Range (To)	DateTimePicker	dateTimePicker2, Report	event_date (for event reports),
			date_recorded (for finances), etc.
Committee	ComboBox	comboBox3, Report	committees.committee_name
Display Report	Button	button1, Report	Triggers report generation from
			various tables
Export as PDF	Button	button2, Report	Save as PDF
Export as Excel	Button	button3, Report	Save as excel
Back	Button	button4, Report	Navigates to Form1
Data Grid	DataGridView	dataGridView1,	Displays results
		Report	
SELECT DISTINCT event_name FROM itec_events;			

SELECT p.name, p.email, p.institute, ep.event_id, e.event_name " +

"FROM participants p " +

"JOIN event_participants ep ON p.participant_id = ep.participant_id " +

"JOIN itec_events e ON ep.event_id = e.event_id " +

"WHERE e.event_date BETWEEN @start AND @end;

SELECT f.transaction_id, f.amount, f.type_id, f.description, f.date_recorded, l.value AS type " +

"FROM finances f " +

"JOIN lookup l ON f.type_id = l.lookup_id " +

"WHERE f.date_recorded BETWEEN @start AND @end";

SELECT c.committee_name, p.name AS member_name, l.value AS role " +

"FROM committees c " +

"JOIN committee_members cm ON c.committee_id = cm.committee_id " +

"JOIN participants p ON cm.participant_id = p.participant_id " +

"JOIN lookup 1 ON cm.role_id = l.lookup_id " +

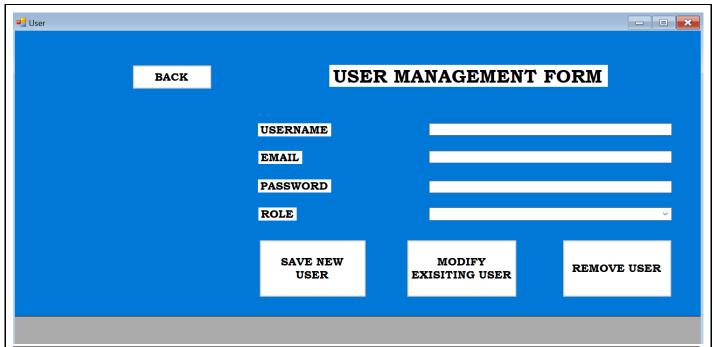
"WHERE 1=1";

SELECT event_name, event_date, location, description " +

"FROM itec_events " +

"WHERE event_date BETWEEN @start AND @end;

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User	



UI Component Name	Type of UI	Class Attribute name,	Linked to which database
	component	Classname, attribute name	column/table
Username	TextBox	textBox1, User	users.username
Email	TextBox	textBox2, User	users.email
Password	TextBox	textBox3, User	users.password_hash
Role	ComboBox	comboBox1, User	users.role_id \rightarrow roles.role_id
Save New User	Button	button1, User	Triggers the INSERT users
Modify Existing	Button	button2, User	Triggers the UPDATE users
User			
Remove User	Button	button3, User	Triggers the DELETE users
Back	Button	button4, User	Navigates back to Form1
Grid View	DataGridView	dataGridView, User 1	Displays: user_id, username,
			email, role_id from users

SELECT role_id, role_name FROM roles;

SELECT user_id, username, email, role_id FROM users;

INSERT INTO users (username, email, password_hash, role_id) VALUES (@username, @email, @password, @role_id);

UPDATE users SET email = @email, password_hash = @password, role_id = @role_id WHERE username = @username;

DELETE FROM users WHERE username = @username;