## **Group name: database group**

# Phase 1 \_ Group Formation and Conceptual Data Model

### **Group's Members Info:**

Student Name
Layan alsudais
Alanoud alsaleem
Reema alaboudi

Group Leader: Reema alaboudi

**Data Modeling Tool:** https://www.lucidchart.com/pages/

#### **Assumptions**

- EducationalBackground: Weak entity tied to User, storing details of each user's education.
- Quiz: Part of a Module, tracked by deadline and max marks.
- StudyGroup: Groups formed by users, containing multiple posts.
- ConversationThread: Discussion threads related to courses.
- QuizAttempt: Records user attempts for quizzes

Description TopicsCovered InstructorID (Foreign Key) StartDate EndDate  Module ModuleID (Primary Key) Module name  Lecture LectureID (Primary Key) VideoContent TextSummary Duration  Assignment AssignmentID (Primary Key) Module assignments  ModuleID (Foreign Key) SubmissionDeadline MaxMarks  Quiz QuizID (Primary Key) Module quizzes  Module quizzes	Entity	Attribute	Desc
EmailAddress ProfilePicture  Course  CourseID (Primary Key) Description TopicsCovered InstructorID (Foreign Key) StartDate EndDate  Module  ModuleID (Primary Key) Module name  Lecture  LectureID (Primary Key) VideoContent TextSummary Duration  Assignment  AssignmentID (Primary Key) Module assignments  Module Toreign Key) SubmissionDeadline MaxMarks  Quiz  QuizID (Primary Key) Module quizzes  Module quizzes  Module quizzes	User	UserID (Primary Key)	Stores registered user
ProfilePicture  Course  CourseID (Primary Key) Description TopicsCovered InstructorID (Foreign Key) StartDate EndDate  Module  Module (Primary Key) Module name  Lecture  Lecture (Primary Key) VideoContent TextSummary Duration  Assignment AssignmentID (Primary Key) Module D(Frimary Key) Module assignments  Module SubmissionDeadline MaxMarks  Quiz  Quiz (QuizID (Primary Key) ModuleID (Foreign Key) SubmissionDeadline MaxMarks  MaxMarks  MaxMarks		Password	information
Course CourseID (Primary Key) Description TopicsCovered InstructorID (Foreign Key) StartDate EndDate  Module ModuleID (Primary Key) Module name  Lecture LectureID (Primary Key) VideoContent TextSummary Duration  Assignment AssignmentID (Primary Key) ModuleID (Foreign Key) SubmissionDeadline MaxMarks  Quiz QuizID (Primary Key) ModuleID (Foreign Key) SubmissionDeadline MaxMarks  ModuleID (Foreign Key) SubmissionDeadline MaxMarks		EmailAddress	
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TopicsCovered InstructorID (Foreign Key) StartDate EndDate  Module ModuleID (Primary Key) Module name  Lecture LectureID (Primary Key) VideoContent TextSummary Duration  Assignment AssignmentID (Primary Key) Module assignments  Module assignments  Module assignments  Quiz QuizID (Primary Key) Module quizzes  Module quizzes  Module quizzes	Course	CourseID (Primary Key)	Represents courses information
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StartDate EndDate  Module  ModuleID (Primary Key) Module name  Lecture  LectureID (Primary Key) VideoContent TextSummary Duration  Assignment  AssignmentID (Primary Key) Module assignments  ModuleID (Foreign Key) SubmissionDeadline MaxMarks  Quiz  QuizID (Primary Key) Module quizzes  Module quizzes  ModuleID (Foreign Key) SubmissionDeadline MaxMarks		TopicsCovered	
EndDate   ModuleID (Primary Key)   Components of courses		InstructorID (Foreign Key)	
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Lecture  Lecture ID (Primary Key)  VideoContent  TextSummary  Duration  Assignment AssignmentID (Primary Key)  ModuleID (Foreign Key)  SubmissionDeadline  MaxMarks  Quiz QuizID (Primary Key)  Module quizzes  ModuleID (Foreign Key)  SubmissionDeadline  MaxMarks	Module	ModuleID (Primary Key)	Components of courses
VideoContent TextSummary Duration  Assignment AssignmentID (Primary Key) Module assignments ModuleID (Foreign Key) SubmissionDeadline MaxMarks  Quiz QuizID (Primary Key) Module quizzes ModuleID (Foreign Key) SubmissionDeadline MaxMarks		Module name	
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Assignment AssignmentID (Primary Key) Module assignments  ModuleID (Foreign Key) SubmissionDeadline MaxMarks  Quiz QuizID (Primary Key) Module quizzes  ModuleID (Foreign Key) SubmissionDeadline MaxMarks		VideoContent	and text content
Assignment		TextSummary	
ModuleID (Foreign Key) SubmissionDeadline MaxMarks  Quiz QuizID (Primary Key) ModuleID (Foreign Key) SubmissionDeadline MaxMarks		Duration	
SubmissionDeadline MaxMarks  Quiz QuizID (Primary Key) Module quizzes  ModuleID (Foreign Key) SubmissionDeadline MaxMarks	Assignment	AssignmentID (Primary Key)	Module assignments
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Quiz QuizID (Primary Key) Module quizzes  ModuleID (Foreign Key)  SubmissionDeadline  MaxMarks		SubmissionDeadline	
ModuleID (Foreign Key) SubmissionDeadline MaxMarks		MaxMarks	
SubmissionDeadline  MaxMarks	Quiz	QuizID (Primary Key)	Module quizzes
MaxMarks		ModuleID (Foreign Key)	
		SubmissionDeadline	
Submission SubmissionID (Primary Key) Tracks assignment submissions		MaxMarks	
Submission SubmissionID (Primary Key) Tracks assignment submissions			
	Submission	SubmissionID (Primary Key)	Tracks assignment submissions
UserID (Foreign Key)		UserID (Foreign Key)	
AssignmentID (Foreign Key)		AssignmentID (Foreign Key)	
Timestamp		Timestamp	
QuizAttempt	QuizAttempt	QuizAttemptID (Primary Key)	Records quiz attempts
UserID (Foreign Key)		UserID (Foreign Key)	
QuizID (Foreign Key)		QuizID (Foreign Key)	
Score		Score	
StudyGroup GroupID (Primary Key) User-formed study groups	StudyGroup	GroupID (Primary Key)	User-formed study groups
DiscussionForum (Relationship		DiscussionForum (Relationship	
with Post entity)		with Post entity)	

		T .
Post	PostID (Primary Key)	PostID (Primary Key)
	GroupID (Foreign Key)	GroupID (Foreign Key)
	UserID (Foreign Key)	UserID (Foreign Key)
	Timestamp	Timestamp
Instructor	InstructorID (Primary Key)	Instructor profiles
	Biography	
Announcement	AnnouncementID (Primary Key)	Course-related announcements
	CourseID (Foreign Key)	by instructors
	Timestamp	
Feedback	FeedbackID (Primary Key)	User feedback on
	UserID (Foreign Key)	courses/instructors
	CourseID (Foreign Key)	
	Ratings	
	TextComments	
Certificate	CertificateID (Primary Key)	Certificates for completed
	UserID (Foreign Key)	courses
	CourseID (Foreign Key)	
	DateOfIssuance	
Message	MessageID (Primary Key)	User messages in conversation
	SenderID (Foreign Key)	threads
	ReceiverID (Foreign Key)	
	Timestamp	
	ThreadID (Foreign Key)	
ConversationThread	ThreadID (Primary Key)	Threads for course-related
	CourseID (Foreign Key, nullable	discussions
	for general queries)	
EducationalBackground	UserID (Foreign Key, part of the	Weak entity linked to User,
	primary key)	stores educational history
	Degree	
	Institution	
	GraduationYear	

#### **Description: ER Data Model component:**

User --(1-to-M)-- EducationalBackground

User -- (M-to-M through Enrollment)-- Course

Course --(1-to-M)-- Module

Module --(1-to-M)-- Lecture

Module --(1-to-M)-- Assignment

Module --(1-to-M)-- Quiz

Assignment -- (M-to-1)-- Submission

Quiz -- (M-to-1)-- QuizAttempt

User -- (M-to-M through StudyGroupMembership)-- StudyGroup

StudyGroup --(1-to-M)-- Post

User --(1-to-M)-- Post

Instructor --(1-to-M)-- Course

Instructor --(1-to-M)-- Announcement

Course --(1-to-M)-- Feedback

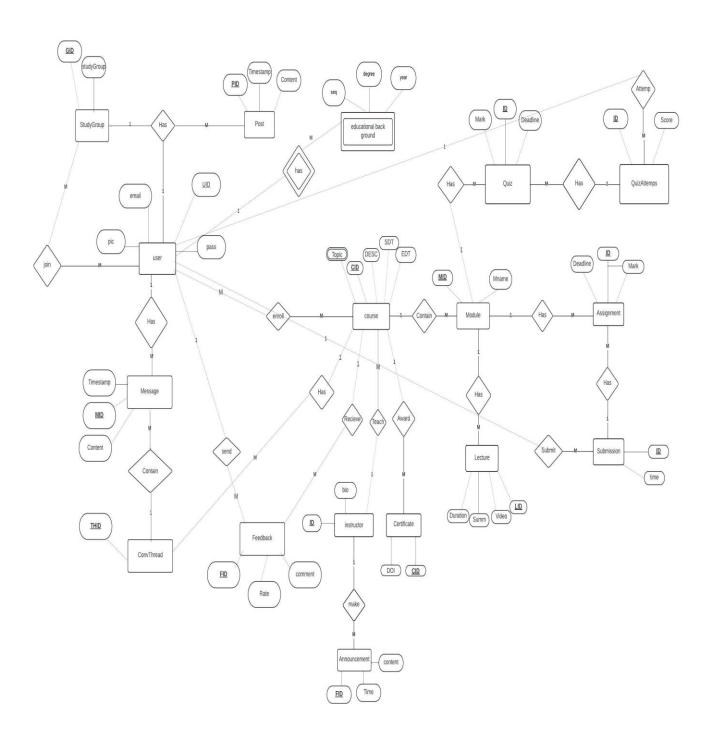
Course --(1-to-M)-- Certificate

Course --(1-to-M)-- ConversationThread

ConversationThread --(1-to-M)-- Message

User --(1-to-M as SenderID and ReceiverID)-- Message

# **Conceptual Data Model**



# Phase 2

