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| **Entity Name** | **Description** | **Aliases** | **Occurrence** |
| Quiz | A sorted collection of flashcards which can be from different sets of Dictionaries | Test | Zero or more Quizzes are composed by one or more Flashcards. Each Quiz is a type of resource |
| Flashcard | A resource containing two sides of text |  | Each Flashcard is a type of Resource |
| Dictionary | A collection of flashcards related to a topic | Deck | One or more Dictionaries is composed by zero or more Flashcards. Each Dictionary is a type of Resource |
| Resource | Some form of learning material | Item | A Resource can be owned by one and only one user |
| Note | A resource containing one side of text, which can be formatted according to the user |  | Each Note is a type of Resource |
| User | Someone that has access to the system | Account | One user can own multiple Resources. Zero or more Users can participate in Foruums |
| Scholar | General user who does not have class creating privileges | Student | Each and every Scholar is a type of User |
| Educator | User with the ability to create and manage classes | Teacher | Each and every Educator is a type of User. One Educator can own one or multiple Classruums |
| Classruum | A group that allows Educators to share resources with Scholars | Class | One or multiple Classruums can be owned by one Educator |
| Foruum | A public domain conversation hub which can be directly related to a specific Classruum | Forum | A single Forum can or cannot be directly related to a specific Classruum |
| Comment | An interaction posted by the User on a specific Foruum | Interaction | Zero or more Comments are contained in a particular Forum |

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| **Entity** | **Multiplicity** | **Relationship** | **Multiplicity** | **Entity** |
| Quiz  Quiz | 0..\*  1..1 | IsComposedOf  IsaTypeOf | 1..\*  1..1 | Flashcard  Resource |
| Flashcard | 1..1 | IsaTypeOf | 1..1 | Resource |
| Dictionary  Dictionary | 1..\*  1..1 | IsComposedOf  IsaTypeOf | 0..\*  1..1 | Flashcard  Resource |
| Resource | None | None | None | None |
| Note | 1..1 | IsaTypeOf | 1..1 | Resource |
| User  User  User | 1..1  0..\*  1..1 | Owns  CanParticipateIn  CanPost | 0..\*  0..\*  0..\* | Resource  Foruum  Comment |
| Scholar  Scholar | 1..1  0..\* | IsaTypeOf  CanBeAMemberOf | 1..1  0..\* | User  Classruum |
| Educator  Educator | 1..1  1..1 | IsaTypeOf  CanCreate | 1..1  1..\* | User  Classruum |
| Classruum | 1..1 | HasA | 0..1 | Foruum |
| Foruum | 1..1 | Contains | 0..\* | Comment |
| Comment | None | None | None | None |

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| **Entity** | **Attributes** | **Description** | **Data type and Length** | **Nulls** |
| Quiz | QuizID  ResourceID  QuizName  QuizTopic | Uniquely identifies a quiz  Uniquely identifies a resource  Name of the Quiz  Topic of the Quiz | 6 variable integers  6 variable integers  30 variable characters  30 variable characters | No  No  No  Yes |
| Flashcard | FlashcardID  ResourceID  DictionaryID  QuizID  FrontContent  BackContent | Uniquely identifies flashcard  Uniquely identifies resource  Uniquely identifies containing Deck  Uniquely identifies containing Quiz  Content (text, etc) on the front of the card  Content (text, etc) on the front of the card | 6 variable integers  6 variable integers  6 variable integers  6 variable integers  255 variable characters  255 variable characters | No  No  No  No  No  No |
| Dictionary | DictionaryID  ResourceID  DictionaryName | Uniquely identifies Dictionary  Uniquely identifies Resource  Name of the Dictionary | 6 variable integers  6 variable integers  30 variable characters | No  No  No |
| Resource | ResourceID  UserID | Uniquely identifies Resource  Identifies user owning Resource | 6 variable integers  6 variable integers | No  No |
| Note | NoteID  ResourceID  NoteTitle  NoteContent | Uniquely identifies Note  Uniquely identifies Resource  Title of the Note  Content (text, etc) of the note | 6 variable integers  6 variable integers  30 variable characters  255 variable characters | No  No  No  No |
| User | UserID  Username  Email  Password | Uniquely identifies User  Username of User  Email of User  Password for the User account | 6 variable integers  15 variable characters  255 variable characters  127 variable characters | No  No  No  No |
| Scholar | ScholarID  UserID | Uniquely identifies Scholar  Uniquely identifies User | 6 variable integers  6 variable integers | No  No |
| Educator | EducatorID  UserID | Uniquely identifies Educator  Uniquely identifies User | 6 variable integers  6 variable integers | No |
| Classruum | ClassID  EducatorID  ClassName | Uniquely identifies Classruum  Identifies owning Educator  Name of the Classruum | 6 variable integers  6 variable integers  30 variable characters | No  No  No |
| Foruum | ForumID  ClassID  ForumTitle | Uniquely identifies Foruum  Identifies Class tied to Foruum  Title of the Foruum | 6 variable integers  6 variable integers  30 variable characters | No  Yes  No |
| Comment | CommentID  ForumID  CommentContent  UserID | Uniquely identifies Comment  Identifies containing Foruum  Content (text, etc) of the Comment  Identifies User which posted Comment | 6 variable integers  6 variable integers  255 characters  6 variable integers | No  No  No  No |

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| **Entity** | **Attributes** | **Description** | **Key** | **Nulls** |
| Quiz | QuizID  ResourceID  QuizName  QuizTopic | Uniquely identifies a quiz  Uniquely identifies a resource  Name of the Quiz  Topic of the Quiz | Primary key | No  No  No  Yes |
| Flashcard | FlashcardID  ResourceID  DictionaryID  QuizID  FrontContent  BackContent | Uniquely identifies flashcard  Uniquely identifies resource  Uniquely identifies containing Deck  Uniquely identifies containing Quiz  Content (text, etc) on the front of the card  Content (text, etc) on the front of the card | Primary key | No  No  No  No  No  No |
| Dictionary | DictionaryID  ResourceID  DictionaryName | Uniquely identifies Dictionary  Uniquely identifies Resource  Name of the Dictionary | Primary key | No  No  No |
| Resource | ResourceID  UserID | Uniquely identifies Resource  Identifies user owning Resource | Primary key | No  No |
| Note | NoteID  ResourceID  NoteTitle  NoteContent | Uniquely identifies Note  Uniquely identifies Resource  Title of the Note  Content (text, etc) of the note | Primary key | No  No  No  No |
| User | UserID  Username  Email  Password | Uniquely identifies User  Username of User  Email of User  Password for the User account | Primary key  Alternate key | No  No  No  No |
| Scholar | ScholarID  UserID | Uniquely identifies Scholar  Uniquely identifies User | Primary key | No |
| Educator | EducatorID  UserID | Uniquely identifies Educator  Uniquely identifies User | Primary key | No |
| Classruum | ClassID  EducatorID  ClassName | Uniquely identifies Classruum  Identifies owning Educator  Name of the Classruum | Primary key | No  No  No |
| Foruum | ForumID  ClassID  ForumTitle | Uniquely identifies Foruum  Identifies Class tied to Foruum  Title of the Foruum | Primary key | No  Yes  No |
| Comment | CommentID  ForumID  CommentContent  UserID | Uniquely identifies Comment  Identifies containing Foruum  Content (text, etc) of the Comment  Identifies User which posted Comment | Primary key | No  No  No  No |