Mail Database Project

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Main Entities

- User (Mailroom Employee)
- Package
- Database
- Database Tables
- Application/System
- Email
- Cadet

Attributes

User

- Username
- Password
- Access Priviledge

Package

- Tracking Number
- Addressee
- Address

Database

- Name
- Filepath
- Sqlite3 Connection
- Sqlite3 Cursor
- Tables

Table

- Properties
- Name

Email

- Addressee
- Subject
- Content

System

- GUI state
- User
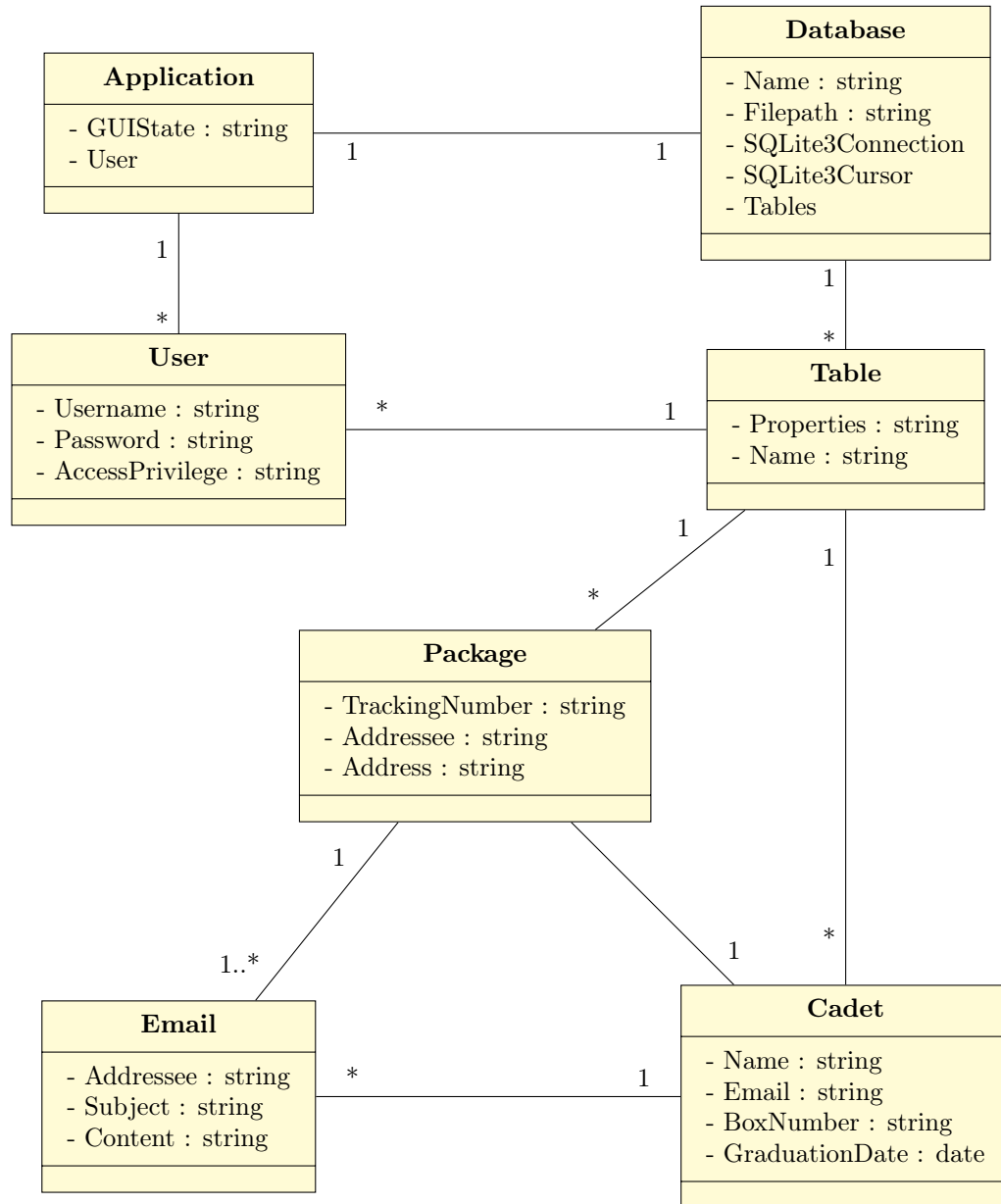
Cadet

- Name
- Email
- Box Number
- Graduation Date

Relationships

A single database will contain several tables. A single table will contain several Cadets. A single table will contain several packages. A single table will contain several users. A single cadet can be associated with several packages. A single cadet can receive several emails. A single package can be associated with several emails. A single application can be associated with several users. A single application is associated with at least 3 database tables.

Constraints

- Package entry should not take longer than 5 seconds.

- Navigation to a different function should not take more than 5 clicks

- Package retrieval, with correct information, should not take more than 10 seconds

- The system must not miss-associate packages

- The system must not provide unrelated search results

- The system must not allow insecure access to cadet information

Domain Model

Application

- GUIState : string
- User

Database

- Name : string
- Filepath : string
- SQLite3Connection
- SQLite3Cursor
- Tables

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User

- Username : string
- Password : string
- AccessPrivilege : string

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Table

- Properties : string
- Name : string

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Package

- TrackingNumber : string
- Addressee : string
- Address : string

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Email

- Addressee : string
- Subject : string
- Content : string

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Cadet

- Name : string
- Email : string
- BoxNumber : string
- GraduationDate : date

Class Diagram

Database

- Name : string
- Filepath : string
- SQLite3Connection
- SQLite3Cursor
- Tables

+ AddUser(Username, Password, AccessPriviledge)
+ AddPackage(BoxNumber, TrackingNumber)
+ SearchPackages(CadetName, BoxNumber, TrackingNumber)

Application

- GUIState : string
- User

+ Open()

User

- Username : string
- Password : string
- AccessPrivilege : string

+ Login(Username, Password)
+ Logout()

Table

- Properties : string
- Name : string

+ AddEntry(key, value)
+ RemoveEntry(key, value)
+ SearchEntries(fields, query, return)

Package

- TrackingNumber : string
- Addressee : string
- Address : string

Email

- Addressee : string
- Subject : string
- Content : string

+ Send()

Cadet

- Name : string
- Email : string
- BoxNumber : string
- GraduationDate : date