Data Access Layer

ConnectionSQL
- + connectionString: string
- + ConnectionSQL(connectionString: string)

PersonDataManager
- + AddPerson(person: IPerson): void
- + RemovePerson(person: IPerson): void
- + CreatePersonFromReader(reader: SqlDataReader, role: Role): IPerson
- + GetPersons(role: Role): List<IPerson>
- + GetAdmins(): List<Admin>
- + GetMentors(): List<Mentor>
- + GetMentees(): List<Mentee>
- + GetPersonByEmail(email: string): User
- + UpdateRating(mentor: Mentor): void
- + UpdatePersonInfo(currentUser: User, updatedUser: User): bool
- + UpdateMentorAverageRating(mentor: Mentor): float

MeetingDataManager
- + AddMeeting(meeting: Meeting): void
- + CancelMeeting(meeting: Meeting): void
- + ChangeMeetingTime(meeting: Meeting, DateTime newDate): void
- + GetMeetings(userEmail: string, condition: string): List<Meeting> meetings
- + GetAllMeetings(userEmail: string): List<Meeting> meetings
- + GetUpcomingMeetings(userEmail: string): List<Meeting> meetings
- + GetPastMeetings(userEmail: string): List<Meeting> meetings
- + UpdateMeetingEmails(oldEmail: string, newEmail: string)
- + GetMeetingById(id: int): Meeting meeting
- + UpdateMeetingRating(meeting: Meeting)

UserActionsDataManager
- + UpdateUserActivityStatus(user: User, isActive: bool)
- + SuspendUser(user: User): void
- + UnsuspendUser(user: User): void

AnnouncementDataManager
- + CreateAnnouncement(announcement: Announcement): bool
- + DeleteAnnouncement(announcement: Announcement): bool
- + GetAllAnnouncements(): List<Announcement> announcements
- + UpdateAnnouncement(announcement: Announcement): bool

AuthenticationDataManager
- + GetUserCredentials(email: string): hash: byte[], salt: byte[]

Business Logic Layer

IUserActionsDataAccess
- + SuspendUser(user: User): void
- + UnsuspendUser(user: User): void

IPersonDataAccess
- + AddPerson(person: IPerson): void
- + RemovePerson(person: IPerson): void
- + GetAdmins(): List<Admin> admins
- + GetMentors(): List<Mentor> mentors
- + GetMentees(): List<Mentee> mentees
- + GetPersonByEmail(email: string): User
- + UpdatePersonInfo(currentUser: User, updatedUser: User): bool
- + UpdateMentorAverageRating(mentor: Mentor): float

IMeetingDataAccess
- + AddMeeting(meeting: Meeting): void
- + CancelMeeting(meeting: Meeting): void
- + ChangeMeetingTime(meeting: Meeting, DateTime newDate): void
- + GetAllMeetings(userEmail: string): List<Meeting> meetings
- + GetUpcomingMeetings(userEmail: string): List<Meeting> meetings
- + GetPastMeetings(userEmail: string): List<Meeting> meetings
- + UpdateMeetingEmails(oldEmail: string, newEmail: string)
- + GetMeetingById(id: int): Meeting meeting
- + UpdateMeetingRating(meeting: Meeting)

IAuthenticationDataAccess
- + GetUserCredentials(email: string): hash: byte[], salt: byte[]

IAnnouncementDataAccess
- + CreateAnnouncement(announcement: Announcement): bool
- + DeleteAnnouncement(id: int): bool
- + GetAllAnnouncements(): List<Announcement> announcements
- + UpdateAnnouncement(id: int, newContent: string): bool

UserActionsManager
- - data: IUserActionsDataAccess
- + UserActionsManager(data:IUserActionsDataAccess)
- + SuspendUser(user: User): void
- + UnsuspendUser(user: User): void

PasswordStrengthChecker
- + IsPasswordStrong(password: string): bool

UserFactory
- + CreateUser(User user): User

UserManager
- - data: IPersonDataAccess
- - meetingData: IMeetingDataAccess
- - hashingManager: HashingManager
- - passwordStrengthChecker: PasswordStrengthChecker
- + UserManager(data: IPersonDataAccess, meetingData: IMeetingDataAccess, hashingManager: HashingManager, passwordStrengthChecker: PasswordStrengthChecker)
- + AddPerson(person: IPerson): void
- + RemovePerson(person: IPerson): void
- + GetMentors(): List<Mentor> mentors
- + GetMentees(): List<Mentee> mentees
- + GetPersonByEmail(email: string): User
- + GetAdmins(): List<Admin> admins
- + UpdateRating(mentor: Mentor): void
- + UpdatePersonInfo(currentUser: User, updatedUser: User): bool
- + UpdateMentorAverageRating(mentor: Mentor): float

HashingManager
- + GenerateHashWithSalt(password: string): hash: byte[], salt: byte[]
- + GenerateHash(password: string, saltBytes: byte[]): hash: byte[]
- + VerifyHash(password: string, hash: byte[], salt: byte[]): bool

RatingManager
- + userManager: UserManager
- + meetingManager: MeetingManager
- + RatingManager(userManager: UserManager, meetingManager: MeetingManager)
- + UpdateMentorRating(email: string): void
- + RateMeeting(meetingId: int, rating: int): void
- + GetTopRatedMentors(): List<Mentor>: mentors
- + UpdateAllMentorsRating(): void

SearchManager
- + userManager: UserManager
- + meetingManager: MeetingManager
- + SearchManager(userManager: UserManager, meetingManager: MeetingManager)
- + SearchByName(query: string): List<IPerson>: filteredPeople
- + FilterByRating(query: string): List<Mentor>: filteredMentors

AuthenticationManager
- - data: IAuthenticationDataAccess
- - hashingManager: HashingManager
- - userManager: UserManager
- + AuthenticationManager(data:IAuthenticationDataAccess, hashingManager: HashingManager, userManager: UserManager)
- + CheckCredentialsForUser(email: string, password: string): bool
- + CheckCredentialsForAdmin(email: string, password: string): bool[]

AnnouncementManager
- - data: IAnnouncementDataAccess
- + AnnouncementManager(data: IAnnouncementDataAccess)
- + AddAnnouncement(announcement: Announcement): void
- + RemoveAnnouncement(announcement: Announcement): void
- + EditAnnouncement(announcement: Announcement): void
- + GetAnnouncements(): List<Announcement> announcements

MeetingManager
- - meetingData: IMeetingDataAccess
- + MeetingManager(meetingData: IMeetingDataAccess)
- + AddMeeting(meeting: Meeting): void
- + CancelMeeting(meeting: Meeting): void
- + ChangeMeetingTime(meeting: Meeting, DateTime newDate): void
- + GetAllMeetings(userEmail: string): List<Meeting> meetings
- + GetUpcomingMeetings(userEmail: string): List<Meeting> meetings
- + GetPastMeetings(userEmail: string): List<Meeting> meetings
- + UpdateMeetingEmails(oldEmail: string, newEmail: string)
- + GetMeetingById(id: int): Meeting meeting
- + UpdateMeetingRating(meeting: Meeting)

IPerson
- - firstName: string
- - lastName: string
- - email: string
- - password: string
- - role: Role
- - image: string

<<enumeration>> Role
- Admin
- Mentor
- Mentee

<<enumeration>> AnnouncementType
- Maintenance
- Event
- General

Admin
- + Admin(firstName: string, lastName: string, email: string, password: string, image: string)
- + ToString()

User
- - isActive: bool
- + User(firstName: string, lastName: string, email: string, password: string, image: string)
- + GetStatus(user: User): string
- + ToString()

Mentor
- - rating: float
- + Mentor(): base()
- + ToString()

Mentee
- + Mentee(): base()

Announcement
- - id: int
- - title: string
- - message: stringBuilder
- - dateTime: CreatedAt
- - dateTime: UpdatedAt
- - type: AnnouncementType
- + Announcement(dateTime: DateTime, info: string, location: string)
- + ToString()

Meeting
- - date: DateTime
- - mentorEmail: string
- - menteeEmail: string
- - rating: int
- + Meeting(dateTime: DateTime, mentorEmail: string, menteeEmail: string)
- + ToString()